Golden Valley Ranch

Master Traffic Study

Rhodes Homes, Arizona
Kingman, Arizona

May, 2006

Stanley Consultants INC.
A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

Golden Valley Ranch – Master Traffic Study

Respectfully submitted,

Stanley Consultants, Inc.

Prepared by _____ 5/15/06
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Reviewed by _____

Approved by _____
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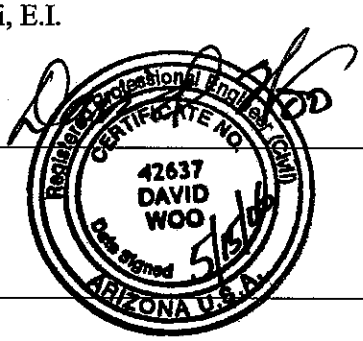

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MOHAVE COUNTY PUBLIC WORKS DEPARTMENT

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DATE: March 13, 2006

TO: Christine Ballard, Planning and Zoning Director

FROM: Steven P. Latoski, P.E., Civil Engineer

RE: Master Traffic Study for Golden Valley Ranch, a proposed new community in Golden Valley, Arizona

This memorandum presents comments pertaining to our review of the January 2006 Golden Valley Ranch – Master Traffic Study, based on a 5,800 +/- acre multi-use development located in the Golden Valley area of Mohave County. Comments reference the *Mohave County Standards for the Preparation and Evaluation of Traffic Impact Analyses*, adopted by the Mohave County Board of Supervisors as BOS Resolution 2006-181.

The trip generation, directional distribution, and trip assignment analyses contained in the Golden Valley Ranch – Master Traffic Study represent critical inputs to the identification of traffic safety and operations deficiencies and assessment of impact mitigation alternatives. The evaluation of all planned roadway infrastructure improvements (e.g., roundabout modeling) and traffic operations strategies will tie directly to the results of the overall travel forecast for the proposed multi-phase development. Hence, the comments presented herein target the analysis of site traffic, method of analyzing roadway capacity for the anticipated build out year of 2025, and approach toward assessing specific infrastructure improvements upon opening of each individual phase of the master planned community.

The following denote specific comments on the findings of the Golden Valley Ranch – Master Traffic Study:

Trip Generation

COMMENT NO. 1: A cursory review of Institute of Transportation Engineers (ITE) trip generation data applicable to the proposed uses within the master planned community indicate other time periods within a typical week may yield a substantially greater volume of total site-generated traffic than that within the weekday morning and/or afternoon peak period of adjacent street traffic. In recognition of the relatively low volume of background traffic in the area within and adjacent to the site, the trip characteristics of the collective multi-use development will determine the period of recurring peak traffic volume in the area for consideration in evaluating roadway improvements.

Determine trip generation for the Golden Valley Ranch Community for the following four periods:

1. Weekday A.M. peak hour of adjacent street traffic
2. Weekday midday peak hour (taken as the greater of weekday A.M. peak hour of generator or weekday P.M. peak hour of generator for each land use)
3. Weekday P.M. peak hour of adjacent street traffic
4. Saturday peak hour

Future analyses of roadway capacity and required infrastructure improvements must reference the

highest peak hour of combined site-generated and background traffic.

COMMENT NO. 2: The trip generation estimates presented in Table 9 consider the quantity sum of all phases, and parcels within each phase, for each categorized land use. The study accurately recognized that of the value of the independent variable (e.g., dwelling units, acres, square feet) for any land use often far exceeded the maximum value of any single study independent variable as reported in ITE *Trip Generation* and based estimates on average trip generation rates only. However, this approach likely did not produce the most accurate estimate of site-generated trips for the overall development and may have significantly overestimated the total number of site-generated trips. Using the methodology presented in the ITE *Trip Generation Handbook*, estimate the amount of site-generated trips for the Golden Valley Ranch Community as follows:

1. Determine overall trip generation for each of the identified seven phases of the master planned community. This intermediate step allows for future operational capacity analyses of recommended roadway improvements by phase.
2. Examine individual land uses by parcel, as permitted given available information, in order to more accurately estimate trip generation within the bounds of data contained in ITE *Trip Generation* and given average rates and regression equations. This approach also aids in trip assignment and the application of distinct trip distribution analyses to relevant parcel land uses.
3. Report the overall trip generation for the Golden Valley Ranch Community as the sum of the individual trip generation analyses performed at the parcel/phase-level.

COMMENT NO. 3: Provide a reference or other justification for the ratios applied to estimate the number of square feet of commercial and office floor area.

COMMENT NO. 4: Consult with administrators from the Kingman Unified School District on the number of students expected to attend the planned elementary, middle, and high schools, and update the associated land use quantities as per revised guidance.

Trip Distribution

COMMENT NO. 5: It is recognized that certain land use relationships within a mixed-use development will in turn, result in a reduction in the total number of new or "primary" trips. The balance of the total trips generated by each individual land use, or "secondary" trips, will originate from another land use on-site. This phenomenon, where two stops within a trip are made within one mixed-use development, is referred to as the effects of the "captive market". A primary trip is generated exclusively by travel from/to a site with no other on-site stops, and a secondary trip is one in a series of stops. Two components of a secondary trip are "pass-by" trips and "diverted linked" trips representing stops made along a trip chain (e.g., work to bank to restaurant to home).

The Golden Valley Ranch – Master Traffic Study includes analyses aimed at estimating the number of new, site-generated trips attributed to each identified land use. However, the study provides no reference or other explanation of the determination of appropriate secondary trip percentages. Revaluate the percentage of on-site, secondary trips applied under each land use using data from the ITE *Trip Generation Handbook*, other nationally recognized sources, and/or specific, comparable developments.

COMMENT NO. 6: Clarify whether the proposed golf course will be open to the general public. If the course is intended to serve the general public, then the percentage of on-site trips must total less than the

100 percent figure applied in the study.

COMMENT NO. 7: The study presents a single directional distribution for the multi-use development, although residential land uses produce trips and commercial/office/recreational land uses attract trips and exhibit various market areas. Describe the directional distribution analysis methodology used in the study, and estimate a revised directional distribution(s) based on characteristics of the following land uses:

- Single family residential – attracted to employment centers during weekday commuter periods and commercial centers during other peak travel periods.
- Senior adult residential – attracted to commercial/recreational centers with employment centers a secondary consideration during weekday commuter periods.
- County park / school – attract local residents
- Golf course – attract local and regional residents
- Office / shopping center – attract local and regional residents with market area representing a function of retail/office type and size

COMMENT NO. 8: The study designates the Wal-Mart distribution center as a primary destination for residential trip productions. However, the distribution center will have only a few hundred employees that may reside in areas from Kingman to Bullhead City.

COMMENT NO. 9: Discuss the potential of Verde Road servicing a percentage of site-generated traffic between Shinarump Drive and State Route 68.

Background Traffic

COMMENT NO. 10: Mohave County and Arizona Department of Transportation (ADOT) traffic impact analyses standards require mitigation of project traffic impacts for the opening year of each phase, 5 years after opening, and 15 years after opening (i.e., per Analysis Category IIc). An estimate of background traffic proportional to a reasonable assessment of development in the Golden Valley area is required for each of the cited horizon years. It may prove plausible to develop a growth factor(s), applicable to existing ADT data on county roadways traversing the study area, calibrated based on reliable traffic data (i.e., data from ADOT permanent count stations) at locations within or near the incorporated areas of Mohave County that have exhibited a significant and sustained level of growth in recent years.

Forecast Traffic Volumes

COMMENT NO. 11: Figure 12 does not delineate the volume of site-generated traffic for Year 2015 and Year 2025, the latter designated as the build out year for the proposed development.

Traffic Analysis

COMMENT NO. 12: Provide a planning level analysis, based on Highway Capacity Manual methodology, of Mohave County arterial roadways serving the proposed development from Interstate 40 to the south and east and State Route 68 to the north. Determine the cross section necessary to service traffic at the anticipated build out year of 2025 under a desired LOS B and LOS C. Also, provide an arterial analysis for Year 2040, representing 15 years after opening per ADOT traffic impact analysis guidelines. A horizon year of 2045, as considered in the study, is an acceptable horizon year

alternative. Note that the recently released HCS+ software includes a new LOSPLAN module for arterial roadways that may be used for this analysis.

COMMENT NO. 13: Describe the conceptual design of the proposed roundabout on Aztec Road, namely whether a single lane or two-lane roundabout is proposed in addition to the layout of approaches to the roundabout.

COMMENT NO. 14: As per *Mohave County Standards for the Preparation and Evaluation of Traffic Impact Analyses* and ADOT guidelines, a traffic impact analysis is required for each phase of the proposed master planned community. Operational capacity analyses shall be performed for identified study intersections in order to determine the satisfactory intersection approach cross sections and intersection traffic control necessary to service traffic generated by the proposed development.

As a result of the comments provided herein on trip generation, trip distribution, traffic forecasting, and traffic analysis methodologies, we recommend a resubmission of the Golden Valley Ranch – Master Traffic Study prior our acceptance of study findings.

Mohave County Department of Public Works

Golden Valley Ranch Master Traffic Study
Response to Comments Summary Sheet

Comment Number	Mohave County Comments	Stanley Consultants Responses	Response Location
1	Determine trip generation for the Golden Valley Ranch community for four different periods	Trip Generation was determined for the four time periods	Appendix A for Trip Generation sheet.
2	Using methodology presented in the ITE Trip Generation Handbook, estimate the amount of site-generated trips for the Golden Valley Ranch community	The site-generated trips were estimated a total of trips from each of the phases.	Chapter 4 - Trip Generation and Appendix A
3	Provide a reference or other justification for the ratios applied to estimate the number of square feet of commercial and office floor area	As suggested by the Architect the floor area ratio's were obtained from communities of similar size.	Chapter 2 - Project Description of the report
4	Consult with administrators of Kingman Unified School District on the number of students expected to attend the planned elementary, middle and high schools.	It was directed by the Kingman Unified School District that the number of students expected in elementary, middle and high school are 500, 800 and 1500 respectively	Chapter 4 - Trip Generation and Appendix A
5	Revaluate the percentage of on-site, secondary trips applied under each land use using data from the ITE Trip Generation Handbook	The percent of on-site or secondary trips were determined based on the directions provided by Mohave County Traffic Engineer	Chapter 4 - Trip Distribution of the report
6	If the golf course is intended to serve the general public, then the percentage of on-site trips must total less than the 100 percent figure applied in the study	The on-site trips for the golf course have been updated to 75%	Chapter 4 - Trip Distribution of the report
7	Describe the directional distribution analysis methodology used in the study, and estimate a revised directional distributions based on the characteristics of different land uses	A different directional distribution has been provided based on the new offsite trips	Chapter 4 - Trip Distribution of the report
8	The Wal-Mart distribution center will have only a few hundred employees that may resides in areas from Kingman to Bullhead City	Wal-Mart distribution center has been updated as an Industrial Center and 20% of the total trips go to the Industrial Center	Chapter 4 - Trip Distribution of the report
9	Discuss the potential of Verde Road servicing a percentage of site-generated traffic between Shinarump and State Route 68	Verde Road is currently not built and may not be used as an alternative route.	Chapter 4 - Trip Distribution of the report
10	An estimate of background traffic proportional to a reasonable assessment of development in the Golden Valley Area for each of the horizon years cited in the ADOT TIA standards	Background traffic has been estimated based on growth rate calculated using the Historical data	Chapter 5 of the report
11	Figure 12 does not delinate the volume of site-generated traffic for year 2015 abd year 2025, tha latter designated as the build out year for the proposed devvelopment	The figure has been updated with the volumes from different study horizons	Figure 12 has been updated to Figure 13 of the report
12	Provide a planning level analysis based on the HCM methodology, of Mohave county arterial roadways serving the proposed development from I-40 and State Route 68	A planning analysis has been performed using HCS+ software	Appendix B
13	Describe the concenptual design of proposed roundabout	A preliminaryconceptual design of the roundabout has been discussed	Chapter 7 - Roundabout Design, Figure 14
14	An Operational capacity analyses shall be performed for identified study intersections in order to determine the satisfactory intersection approach cross sections and traffic controls necessary to service traffic generated by the proposed development	Will be performed in the Phase Traffic Studies	Future - Phase Traffic Studies

EXECUTIVE SUMMARY

The proposed Golden Valley Ranch is a 5800 ± acre multi land use development located in Golden Valley area of Mohave County, Arizona, Approximately 10 miles west of Kingman, Arizona. It is bounded by Shinarump Drive on the north, Aquarius Drive on the south, Tombstone Trail on the west, and Yuma Road on the east. The build out year for the proposed development is anticipated as 2025.

The development will be constructed in seven different phases. The land uses included in each of the phases are provided in Appendix A. Each phase of development will include roadways which provide access to the proposed land uses. Analysis on the roadways in each phase will be provided in separate traffic studies for each phase.

According to the Golden Valley Area Plan provided by the Mohave County Planning and Zoning Department, the right of way for the vast majority of Golden Valley Roadways was platted before 1965, prior to County's subdivision and roadway design review process. There are approximately 220 miles of County roadways within Golden Valley Area Plan's boundaries. Nearly three fourths of these roadways are unsurfaced. Only 7% of the roadways have regular asphaltic concrete.

To quantify and assess the traffic impact of the proposed development upon the existing and future roadway network and key intersections, trip generation rates for the proposed land uses were obtained using the ITE Trip Generation 7th Edition. It has been assumed that 30% of the total site trips generated will be captured internally. Of the remaining 70% trips, 30% of the trips are assumed to be to and from Kingman, 20% to and from Bullhead City/Laughlin and 20% of the trips attracted to and from the Industrial Center planned to the south of the property along Interstate-40.

The roadway standards of Mohave County were utilized and when items not specified were needed they were augmented with the City of Mesa standards. Stanley Consultants and Rhodes Homes, Arizona are coordinating with Mohave County Public Works in developing project specific roadway cross sections within the community. The typical Mohave County roadway cross sections are proposed to be used for the roadways outside the community

It is recommended that all of right of way for the roadways be defined based on future traffic signals at the intersections of major arterials. More detailed analysis of the various traffic control alternatives will be provided in the traffic studies for the different phases of the development.

GOLDEN VALLEY RANCH

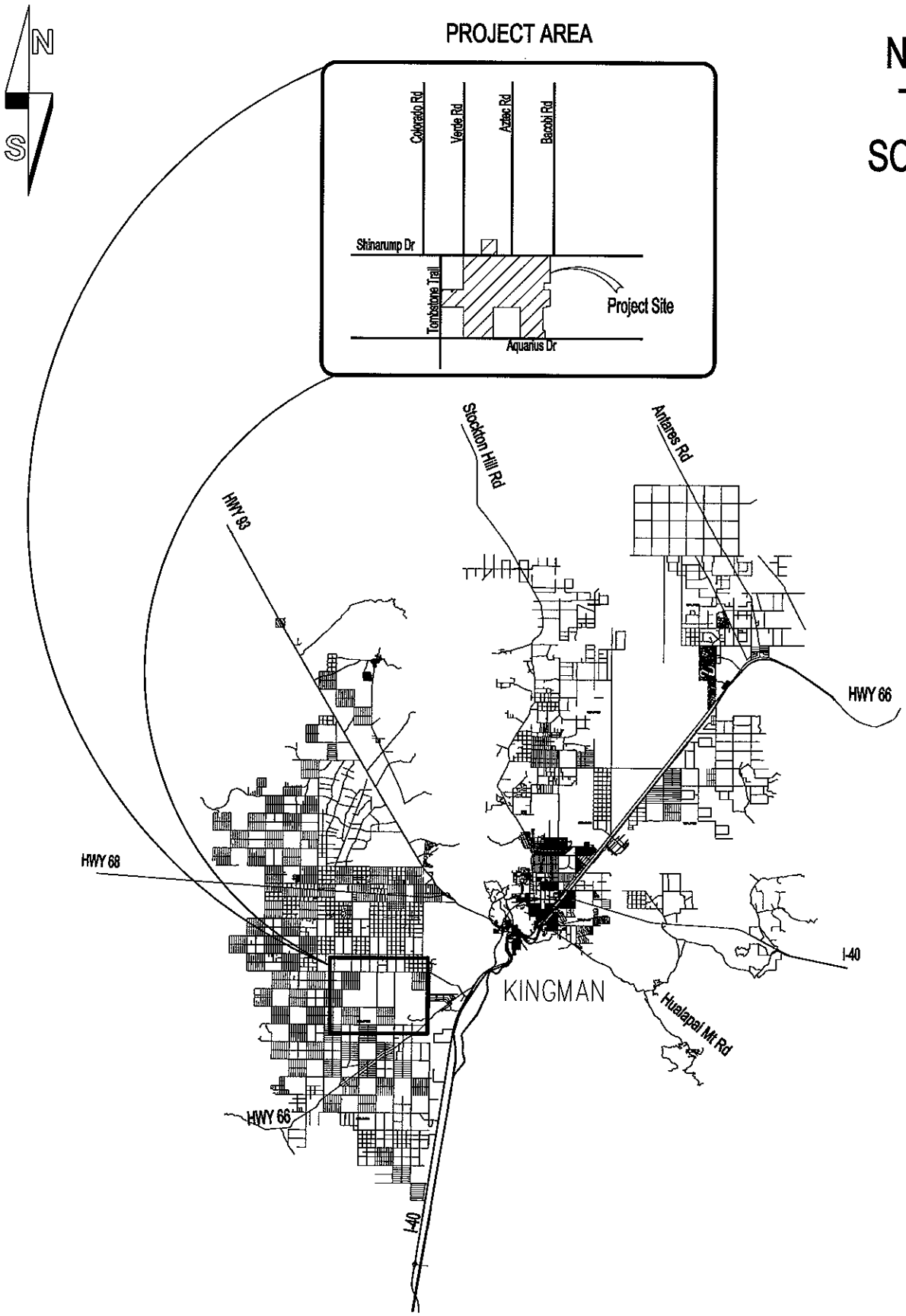
CHAPTER 1 – INTRODUCTION

PURPOSE OF REPORT

The purpose of this report is to present the assumptions, analyses and results of a Traffic Impact Study prepared for the proposed Golden Valley Ranch master planned community. Golden Valley Ranch is located on the south side of Shinarump Road in the Golden Valley South area in Mohave County, Arizona. This study determines the traffic generation characteristics of the proposed project, identifies potential traffic related impacts on the street network and proposes mitigation measures for the identified impacts. This traffic impact analysis is based on the information and project descriptions supplied by Rhodes Homes, Arizona and the requirements and requests of the Mohave County Public Works staff.

STUDY OBJECTIVES

The objectives of this Traffic Impact Study are to quantify the transportation impacts of the proposed Golden Valley Ranch master planned community and to determine what improvements are necessary to ensure safe and efficient access to and from the development. The proposed development's relationship to the surrounding area and roadway network is shown in the vicinity map in Figure 1.



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Golden Valley Ranch
at Aztec Road & Shinarump Drive
Master Traffic Study

Vicinity Map

FIG. 1

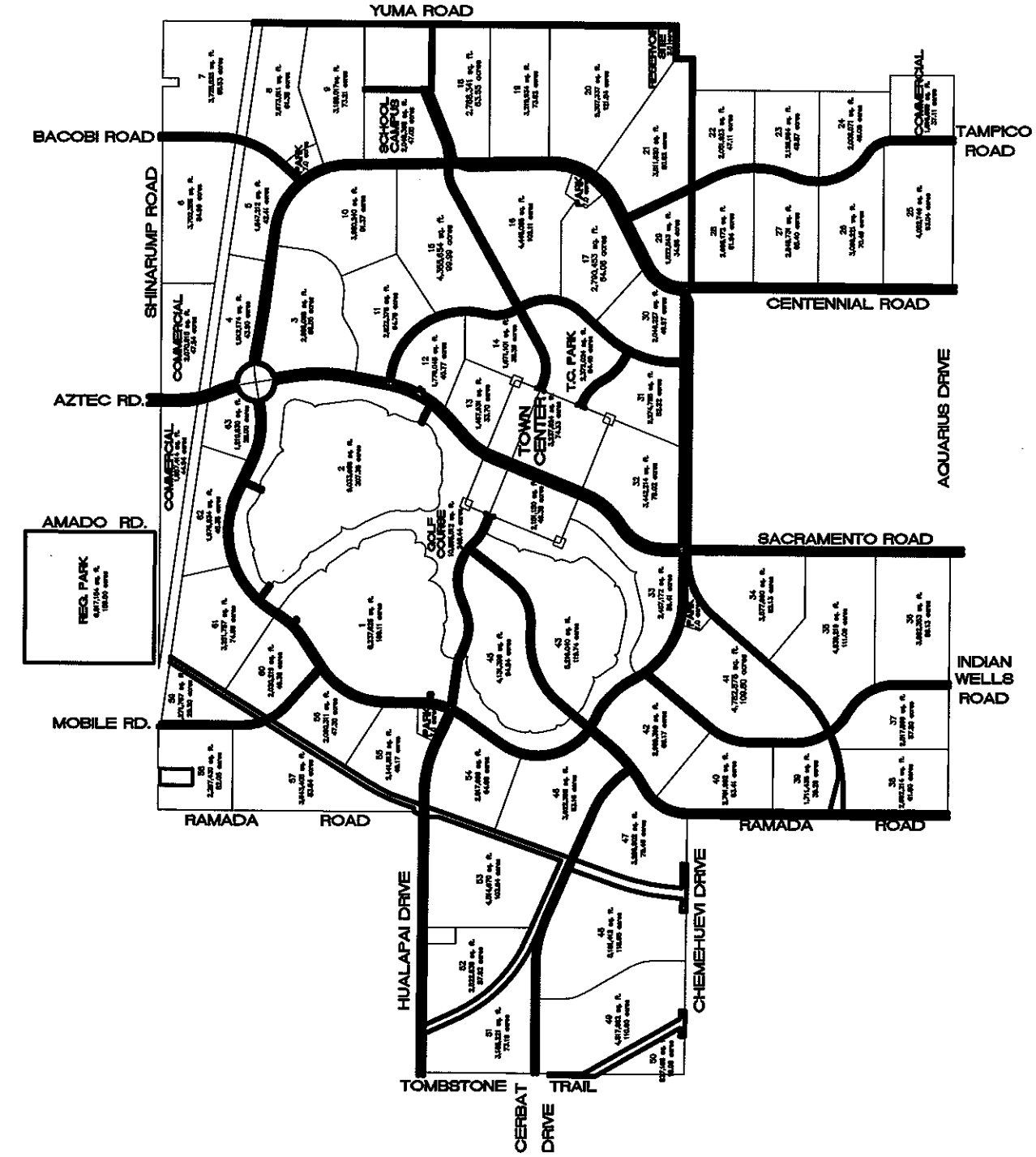
CHAPTER 2 – DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed Golden Valley Ranch is a 5800± acre multi land use master plan development bounded by Shinarump Drive on the north, Tombstone trail on the west, Aquarius Drive on the south, and Yuma Road on the east. It will be comprised of an interconnected series of villages, each having a unique identity and character, served by nearby neighborhood shopping areas, parks and open space areas. Villages will be pedestrian and bicycle friendly with internal trail systems connecting the parks, open space, shopping areas and school facilities. Single family, multi-family houses, and apartments will be offered, as well as active adult neighborhoods, appealing to a variety of family types and incomes.

A town center comprising commercial, office space and residential land uses is planned in the middle of the community. A commercial area is planned in the northern edge of the community, allowing residents easy access to employment and shopping opportunities. A pedestrian oriented main street will serve as the center focal point of the master plan, along with the considerable scenic and recreational open space provided by the 18-hole golf course, also located in the center of the community. Figure 2 depicts the Site Plan of the master planned community.

The development consists of seven different phases and the land uses in each of the phases are listed below. For each phase of the development the necessary roadways will be planned and constructed to provide safe and efficient ingress and egress to the current phase and all the previous phases. Summary of land uses for the complete master planned community and for each individual phase are presented in Tables 1 to 8.

NOT TO SCALE



Stanley Consultants INC. 5820 S Eastern Ave, Suite 200 Las Vegas, NV 89119 Phone: (702) 369-9396 Fax: (702) 369-9793	Golden Valley Ranch at Aztec Road & Shinarump Drive Master Traffic Study	Site Plan	FIG. 2

Table 1 – Land Use Summary for the Master Planned Community

ITE Land Use Code	Description	Given Quantity	Units	Desired Quantity	Units
210	Single Family Dwelling Units	9,341	DU	9,341	DU
220	Apartment	1,539	DU	1,539	DU
232	High Rise Condominiums (TC)	10,000	DU	10,000	DU
251	Senior Adult Housing-Detached	13,675	DU	13,675	DU
412	County Park	74.1	Acres	74.1	Acres
430	Golf Course	249.5	Acres	249.5	Acres
520	Elementary School [2]	16.1	Acres	500	Students
522	Middle School [2]	16.1	Acres	800	Students
530	High School [2]	16.1	Acres	1,500	Students
710	General Office Building [1,3]	293.4	Acres	3,163.2	KSF
820	Shopping Center [1,3]	250.0	Acres	2,041.9	KSF

Notes:

1 – As suggested by the project architect, a Floor Area Ratio of 0.25 is assumed for commercial developments and 0.33 for general office buildings. Also the net acreage is assumed 75% of the total acres.

2 - Elementary and Middle Schools are planned as per standards provided by Kingman Unified School District.

3 - KSF = 1,000 SF of Gross Floor Area.

Table 2 – Land Use Summary of Phase I of the Master Planned Community

ITE Land Use Code	Description	Given Quantity	Units	Desired Quantity	Units
210	Single Family Dwelling Units	2,278	DU	2,278	DU
220	Apartment	1,539	DU	1,539	DU
232	High Rise Condominiums (TC)	2,627	DU	2,627	DU
251	Senior Adult Housing-Detached	2,550	DU	2,550	DU
412	County Park	14.0	Acres	14.0	Acres
520	Elementary School	16.1	Acres	500	Students
522	Middle School	16.1	Acres	800	Students
530	High School	16.1	Acres	1,500	Students
430	Golf Course	249.5	Acres	249.5	Acres
820	Shopping Center	24.0	Acres	196.0	KSF

Table 3 – Land Use Summary of Phase II of the Master Planned Community

ITE Land Use Code	Description	Given Quantity	Units	Desired Quantity	Units
210	Single Family Dwelling Units	3,656	DU	3,656	DU
232	High Rise Condominiums (TC)	3,961	DU	3,961	DU
412	County Park	53.1	Acres	53.1	Acres
820	Shopping Center	36.2	Acres	295.7	Acres

Table 4 – Land Use Summary of Phase III of the Master Planned Community

ITE Land Use Code	Description	Given Quantity	Units	Desired Quantity	Units
251	Senior Adult Housing-Detached	3,554	DU	3,554	DU
232	High Rise Condominiums (TC)	1,365	DU	1,365	DU
412	County Park	7.0	Acres	7.0	Acres
820	Shopping Center	24.0	Acres	196.2	KSF

Table 5 – Land Use Summary of Phase IV of the Master Planned Community

ITE Land Use Code	Description	Given Quantity	Units	Desired Quantity	Units
210	Single Family Dwelling Units	2,814	DU	2,814	DU
710	General Office Building	178.8	Acres	1,927.7	KSF
820	Shopping Center	73.3	Acres	598.8	KSF

Table 6 – Land Use Summary of Phase V of the Master Planned Community

ITE Land Use Code	Description	Given Quantity	Units	Desired Quantity	Units
251	Senior Adult Housing-Detached	2,664	DU	2,664	DU

Table 7 – Land Use Summary of Phase VI of the Master Planned Community

ITE Land Use Code	Description	Given Quantity	Units	Desired Quantity	Units
251	Senior Adult Housing-Detached	2,962	DU	2,962	DU

Table 8 – Land Use Summary of Phase VII of the Master Planned Community

ITE Land Use Code	Description	Given Quantity	Units	Desired Quantity	Units
210	Single Family Dwelling Units	593	DU	593	DU
251	Senior Adult Housing-Detached	3,081	DU	3,081	DU
412	County Park	53.1	Acres	53.1	Acres
710	General Office Building	114.6	Acres	1,235.7	KSF
820	Shopping Center	36.2	Acres	295.7	KSF

CHAPTER 3 – EXISTING ROADWAY CONDITIONS

According to the Golden Valley Area Plan provided by the Mohave County Planning and Zoning Department, a vast majority of Golden Valley Roadways were platted before 1965, prior to County's subdivision and roadway design review process. There are some 220 miles of County roadways within Golden Valley Area Plan's boundaries. Nearly three fourths of these roadways are unsurfaced. Only 7% of the roadways have regular asphaltic concrete. The roadway master plan for Golden Valley region suggests that Aztec Road and Shinarump Drive are both section roadways and have a right of way of 100 feet.

Aztec Road is a north-south 100 feet right of way section line roadway with one lane in each direction. The posted speed limit is 45 mph. The roadway currently has various flood zones between Highway 68 and Shinarump Drive. Aztec road provides access to Highway 68 from the proposed development.

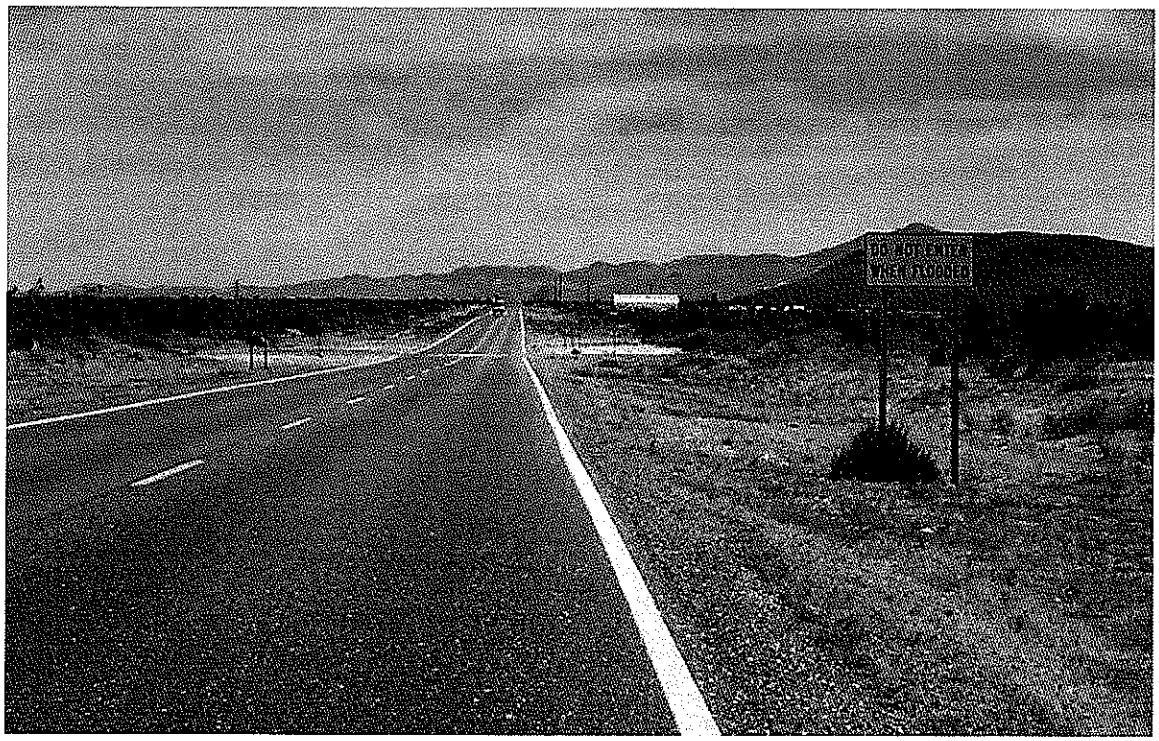


Figure 3 – Aztec Road between Highway 68 and Shinarump Drive

Shinarump Drive is an east-west 100 feet right of way section line roadway which is unimproved to the west of Aztec Road and one lane in each direction to the east of Aztec Road in the present day conditions. The posted speed limit on this roadway is 45 mph to the east of Aztec Road and 35 mph to the west of Aztec Road. This roadway provides access to Interstate 40 from the proposed development.

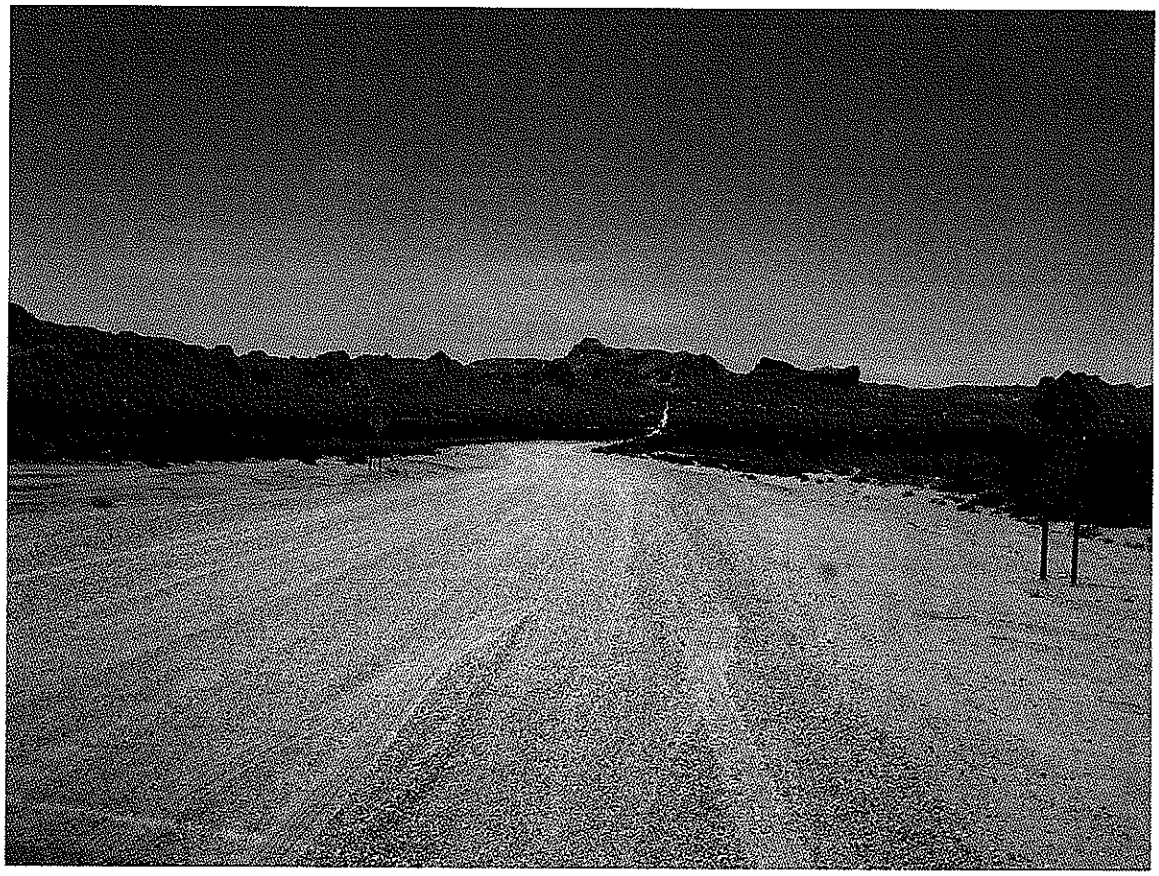


Figure 4 – Shinarump Drive west of Aztec Road

Aquarius Drive is an east-west 84 feet right of way section line roadway which is currently unsurfaced. The proposed Golden Valley Ranch provides five access points on to this roadway. This roadway connects the proposed development with Old Oatman Highway (Highway 66). The roadway is proposed to be developed in to a six lane facility by the end of build out of Golden Valley Ranch.

Highway 68 is currently a four lane undivided highway with a two way left turn lane in the project vicinity. The Golden Valley Area Plan proposes this road to be a four lane divided highway. The posted speed limit is 50 mph. The roadway is currently operating at a Level of

Service (LOS) A in Golden Valley. A recent Arizona Department of Transportation (ADOT) study concluded that Highway 68 is facing a proliferation of access points along its length.

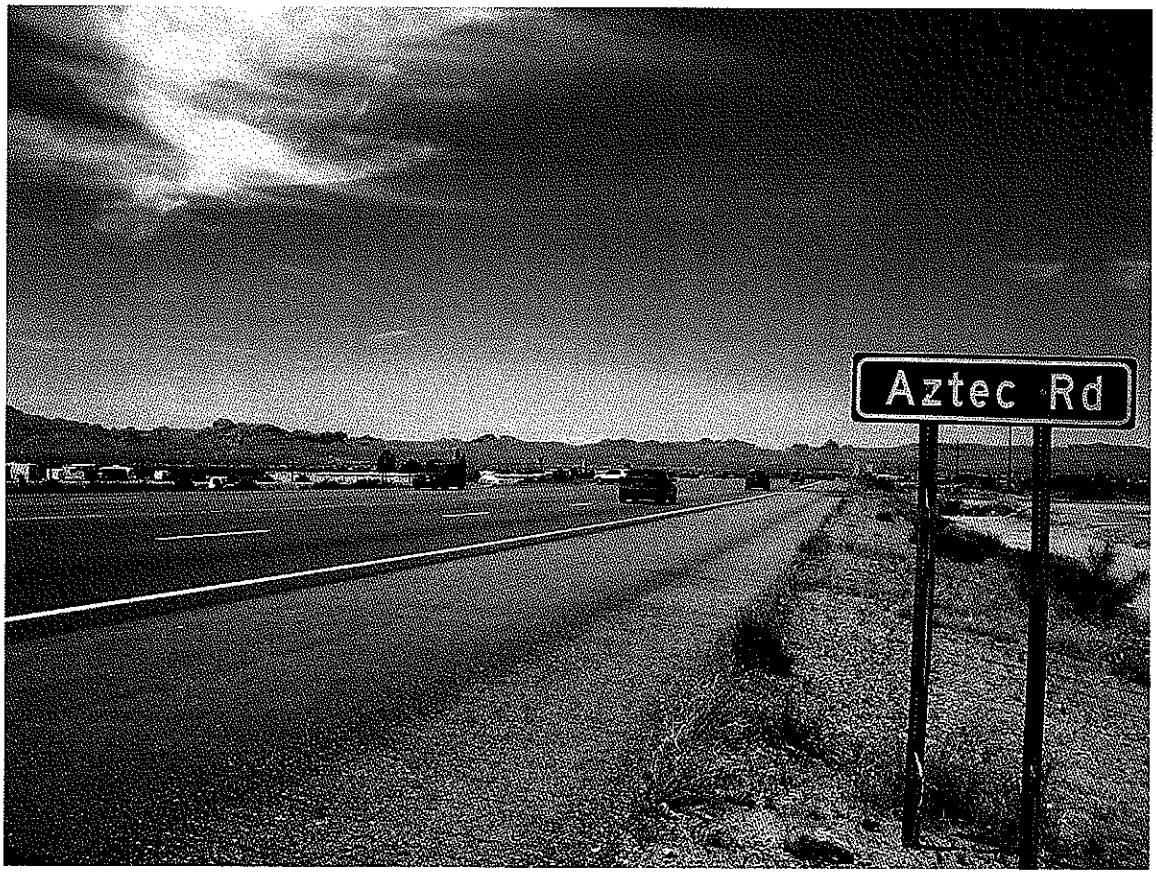


Figure 5 – Highway 68 at Aztec Road Intersection

Old Oatman Highway (Highway 66) is a two lane facility with a posted speed limit of 35 mph. This roadway provides access on to Shinarump Drive, which connects to I-40.

The existing roadway configuration is presented in Figure 6. The following intersections are expected to be taking major impact from the development of the Golden Valley Ranch community

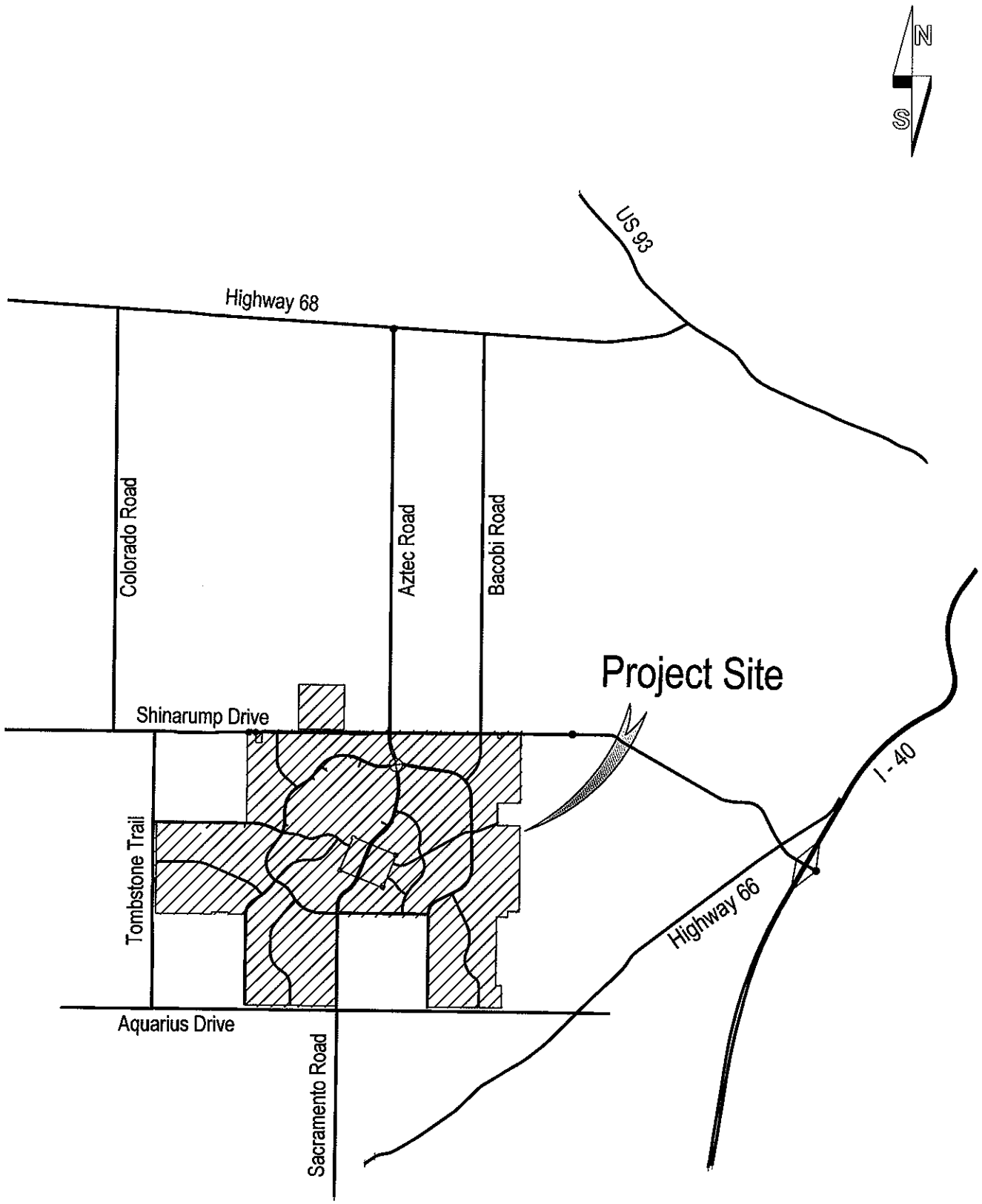
Aztec Road and Shinarump Drive is currently an unsignalized, three legged intersection with stop control on Aztec Road. The east and north approaches at the intersection are paved and have one lane each way. The west approach of the intersection is unimproved.

Shinarump Drive and Oatman Highway (Highway 66) is an unsignalized four legged intersection. The intersection is stop controlled with stop signs on the Oatman Highway. All the

east and west approaches of the intersection have a right turn lane and a through lane. Oatman highway is a north-south roadway with one lane in each direction at the intersection.

Aztec Road and Highway 68 is a stop controlled, four legged intersection with a stop sign on Aztec Road. Highway 68 has two through lanes in each direction and a center lane for left turn movements at the intersection. Aztec Road has one lane in each direction with a dedicated right turn lane at the intersection.

Shinarump Drive and I-40 Ramps are two intersections with stop control on both the off ramps. Shinarump Drive is a two lane roadway at both the intersections.



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Golden Valley Ranch
at Aztec Rd & Shinarump Dr
Master Traffic Study

Existing
Roadway
Configuration

FIG.
6

CHAPTER 4 – SITE TRAFFIC

TRIP GENERATION

To assess the traffic impact of the proposed development on the existing and future roadway network and key intersections, peak hour trip generation rates for the proposed land use were obtained from the ITE Trip Generation 7th Edition. In an attempt to determine the peak hour of traffic during the week, trips were generated for four different peak hours as suggested by the Mohave County Officials. The following are the time periods that were assessed to determine the peak hour:

- Weekday A.M. peak hour of adjacent street traffic
- Weekday P.M. peak hour of adjacent street traffic
- Weekday midday peak hour (taken as greater of weekday A.M. peak hour of generator or weekday P.M. peak hour of the generator)
- Saturday peak hour

The proposed development described in Chapter 2 is quite large and the value of various independent variables (e.g. dwelling units, acres, and square feet) for most of the land uses far exceed the maximum value of any independent variable as reported in the ITE Trip Generation 7th Edition. Hence, to estimate the total trips generated by the master planned community, trip generation for each parcel of each phase is performed for the above mentioned time periods and are added up to obtain the overall site trip generation. The trip generations for each peak period are provided in the Technical Appendix A.

In preparing an estimate of the number of square feet of commercial and office space, a floor area ratio of 0.33 and 0.25 was assumed for each net acre as recommended by the project architects. These floor area ratios are based on the project architects experience with similar master plan projects in suburban settings. These factors will be refined and updated as more specific and detailed planning occurs. Each net acre of land excludes roadways and accounts for approximately 75% of the total acreage.

Rhodes Homes, Arizona proposed school acreage includes an elementary school, a middle school and a high school. As suggested by the Kingman Unified School District, these schools are planned for 500 students in the elementary school, 800 students in the middle school and 1500 students for high school.

Trip generation for the proposed community suggests a weekday volume of 332,385 vehicular trips and a Saturday volume of 308,918 vehicular trips. Weekday P.M. peak hour volume is found to be 8.8% of the weekday volume. Midday peak hour volume is found to be 7.7% of the weekday volume. The summaries of the trip generations for each of the time periods are presented in the Appendix A.

TRIP DISTRIBUTION

Trip distribution is the process of estimating where the site traffic will come from and go to when site is completely build-out. Each vehicular trip has an origin and a destination. Due to the size of the planned development, many trips will have both the origin and the destination on the site or within the site. From the procedure outlined in the ITE Trip Generation Handbook, trip distribution is performed using the template shown in Figure 7.

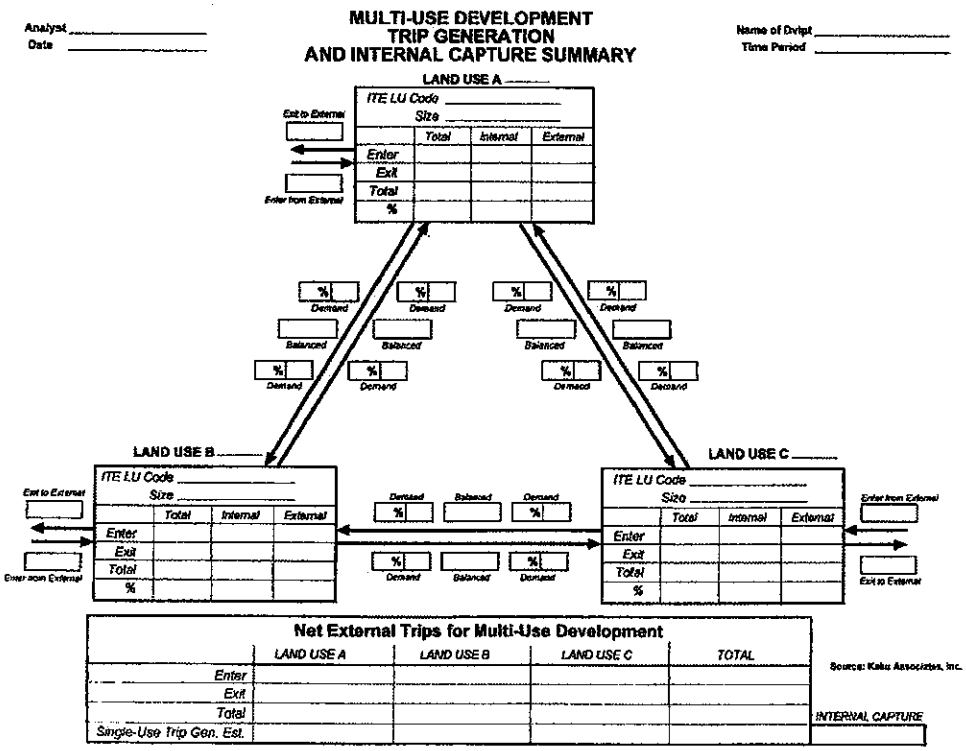


Figure 7 – ITE Trip Generation Handbook internal capture template

The ITE Trip Generation Handbook provides internal capture rates for Office, Retail and Residential land uses and suggests the use of local data for all other land uses. The calculation of internal capture based on the ITE data provided produces a 7% internal capture which is considered to be low for this master planned community. Therefore, the internal capture rate is recalculated using the following methodology.

It is suggested by the Mohave County officials that all trips generated by parks and schools to be considered secondary and stay within the community or on-site. The secondary or on-site trips generated by commercial property are calculated using the ITE Trip Generation Handbook. The secondary trip rate for office space is assumed to be 50% with the other 50% as primary trips. The primary or off-site trips for non-residential land uses during the four peak hours are presented in Tables 9 to 12. From the tables the primary or new trips are the trips that come out of the community onto the county roadway network, during the respective peak hour. Hence from Tables 9 to 12 it is observed that the P.M. peak hour and the Saturday peak hour produce the highest number of primary trips.

Table 9 – Trip Distribution for Non Residential Land Uses during A.M. Peak Hour

Phase ↓	Land Use →	Parks	Schools	Golf Course	Commercial	Office	*Trips by Phase*
Phase I	**Total Trips**	**0**	**1,249**	**48**	**273**	**0**	***1,570***
	Primary trips	0	0	12	191	-	*203*
	Secondary trips	0	1,249	36	82	-	*1,367*
Phase II	**Total Trips**	**1**	**0**	**0**	**412**	**0**	***413***
	Primary trips	0	-	-	305	-	*305*
	Secondary trips	1	-	-	107	-	*108*
Phase III	**Total Trips**	**0**	**0**	**0**	**142**	**0**	***142***
	Primary trips	-	-	-	92	-	*92*
	Secondary trips	-	-	-	50	-	*50*
Phase IV	**Total Trips**	**0**	**0**	**0**	**525**	**2,992**	***3,517***
	Primary trips	-	-	-	394	1,496	*1,890*
	Secondary trips	-	-	-	131	1,496	*1,627*
Phase V	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VI	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VII	**Total Trips**	**2**	**0**	**0**	**778**	**1,888**	***2,668***
	Primary trips	0	-	-	607	944	*1,551*
	Secondary trips	2	-	-	171	944	*1,117*
Total	Primary trips	0	0	12	1,589	2,440	***4,041***
	Secondary trips	3	1,249	36	541	2,440	***4,269***

Table 10 – Trip Distribution for Non Residential Land Uses during P.M. Peak Hour

Phase ↓	Land Use →	Parks	Schools	Golf Course	Commercial	Office	*Trips by Phase*
Phase I	**Total Trips**	**1**	**470**	**64**	**995**	**0**	***1,530***
	Primary trips	0	0	16	697	-	*713*
	Secondary trips	1	470	48	299	-	*818*
Phase II	**Total Trips**	**1**	**0**	**0**	**1,501**	**0**	***1,502***
	Primary trips	0	-	-	1,111	-	*1,111*
	Secondary trips	1	-	-	390	-	*391*
Phase III	**Total Trips**	**0**	**0**	**0**	**517**	**0**	***517***
	Primary trips	-	-	-	336	-	*336*
	Secondary trips	-	-	-	181	-	*181*
Phase IV	**Total Trips**	**0**	**0**	**0**	**1,088**	**2,876**	***3,964***
	Primary trips	-	-	-	816	1,438	*2,254*
	Secondary trips	-	-	-	272	1,438	*1,710*
Phase V	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VI	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VII	**Total Trips**	**9**	**0**	**0**	**2,832**	**1,815**	***4,656***
	Primary trips	0	-	-	2,209	908	*3,116*
	Secondary trips	9	-	-	623	908	*1,540*
Total	Primary trips	0	0	16	5,168	2,346	***7,530***
	Secondary trips	11	470	48	1,765	2,346	***4,639***

Table 11 – Trip Distribution for Non Residential Land Uses during Mid Day Peak Hour

Phase ↓	Land Use →	Parks	Schools	Golf Course	Commercial	Office	*Trips by Phase*
Phase I	**Total Trips**	**8**	**1,249**	**97**	**273**	**0**	***1,627***
	Primary trips	0	0	24	191	-	*215*
	Secondary trips	8	1,249	73	82	-	*1,412*
Phase II	**Total Trips**	**5**	**0**	**0**	**412**	**0**	***417***
	Primary trips	0	-	-	305	-	*305*
	Secondary trips	5	-	-	107	-	*112*
Phase III	**Total Trips**	**4**	**0**	**0**	**142**	**0**	***146***
	Primary trips	0	-	-	92	-	*92*
	Secondary trips	4	-	-	50	-	*54*
Phase IV	**Total Trips**	**0**	**0**	**0**	**525**	**2,992**	***3,517***
	Primary trips	-	-	-	394	1,496	*1,890*
	Secondary trips	-	-	-	131	1,496	*1,627*
Phase V	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VI	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VII	**Total Trips**	**92**	**0**	**0**	**778**	**1,888**	***2,758***
	Primary trips	0	-	-	607	944	*1,551*
	Secondary trips	92	-	-	171	944	*1,207*
Total	Primary trips	0	0	24	1,589	2,440	***4,053***
	Secondary trips	109	1,249	73	541	2,440	***4,412***

Table 12 – Trip Distribution for Non Residential Land Uses during Saturday Peak Hour

Phase ↓	Land Use →	Parks	Schools	Golf Course	Commercial	Office	*Trips by Phase*
Phase I	**Total Trips**	**31**	**165**	**160**	**1,319**	**0**	***1,675***
	Primary trips	0	0	40	923	-	*963*
	Secondary trips	31	165	120	396	-	*712*
Phase II	**Total Trips**	**16**	**0**	**0**	**1,989**	**0**	***2,005***
	Primary trips	0	-	-	1,472	-	*1,472*
	Secondary trips	16	-	-	517	-	*533*
Phase III	**Total Trips**	**16**	**0**	**0**	**686**	**0**	***702***
	Primary trips	-	-	-	446	-	*446*
	Secondary trips	-	-	-	240	-	*240*
Phase IV	**Total Trips**	**0**	**0**	**0**	**1,340**	**791**	***2,131***
	Primary trips	-	-	-	1,005	396	*1,401*
	Secondary trips	-	-	-	335	396	*731*
Phase V	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VI	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VII	**Total Trips**	**351**	**0**	**0**	**3,754**	**499**	***4,604***
	Primary trips	0	-	-	2,928	250	*3,178*
	Secondary trips	351	-	-	826	250	*1,426*
Total	Primary trips	0	0	40	6,774	645	*7,459*
	Secondary trips	398	165	120	2,314	645	*3,642*

The internal capture rates for the P.M. peak hour and the Saturday peak hour are determined based on the primary and secondary trip distribution during the respective peak periods. Based on this assumption, Table 13 presents the internal capture rate calculations for the two peak hours.

Table 13 – Internal Capture rate Calculation

	Residential Trips	Non Residential Trips		Total Trips on to the County Roadways	Total Peak Hour Trips	Internal Capture
		Primary	Secondary			
PM Peak hour	17,185	7,530	4,639	20,076	29,355	32%
Saturday Peak Hour	15,501	7,459	3,642	19,318	26,617	27%

Based on the calculation in Table 13 an internal capture rate of 30% is assumed for both weekdays and weekend days, as the trips going offsite are higher during the P.M. peak hour. Of the 70% offsite trips, 30% are assumed to be attracted towards Kingman, 20% towards Bullhead City/Laughlin and the remaining 20% of trips towards the Industrial Center planned to the south of the community along I-40. The number of offsite trips towards Kingman, Bullhead City/Laughlin and the Industrial Center are assumed to be 70% of the total trips in 2015 when Golden Valley Ranch is only half developed and there is little development around Golden Valley

Ranch. In the build-out year of 2025, there is assumed to be more development around Golden Valley Ranch and hence only 35% of the total trips produced in Golden Valley Ranch are projected to be traveling to Kingman, Bullhead City/Laughlin and the Industrial Center.

The onsite and offsite trips for each phase during the P.M. and Saturday peak hours are presented in Tables 14 and 15.

Table 14 – Onsite and Offsite Trips during P.M. Peak Hour

Phase	Peak Hour	Residential Trips	Non Residential Trips		Total Offsite Traffic	Total Onsite Traffic	Total Peak Hour Traffic
			Primary (Offsite)	Secondary (Onsite)			
1	PM Peak Hour	4,877	713	818	4,772	818	5,590
2	PM Peak Hour	4,544	1,111	391	5,263	391	5,655
3	PM Peak Hour	2,274	336	181	2,429	181	2,610
4	PM Peak Hour	3,184	2,254	1,710	3,728	1,710	5,438
5	PM Peak Hour	677	0	0	677	0	677
6	PM Peak Hour	797	0	0	797	0	797
7	PM Peak Hour	833	3,116	1,540	2,410	1,540	3,949
				Total Volumes:	**20,077**	**4,639**	**24,716**

Table 15 – Onsite and Offsite Trips during Saturday Peak Hour

Phase	Peak Hour	Residential Trips	Non Residential Trips		Total Offsite Traffic	Total Onsite Traffic	Total Peak Hour Traffic
			Primary (Offsite)	Secondary (Onsite)			
1	SAT Peak Hour	4,387	963	712	4,639	712	5,350
2	SAT Peak Hour	4,227	1,472	533	5,166	533	5,699
3	SAT Peak Hour	1,998	446	240	2,204	240	2,444
4	SAT Peak Hour	2,962	1,401	731	3,632	731	4,363
5	SAT Peak Hour	558	0	0	558	0	558
6	SAT Peak Hour	660	0	0	660	0	660
7	SAT Peak Hour	709	3,178	1,426	2,460	1,426	3,887
				Total Volumes:	**19,318**	**3,642**	**22,960**

Aztec Road and Bacobi Road were considered for the distribution of trips outside the community towards Highway 68 since they are in line with the access roadways in to the Golden Valley Ranch community. Colorado road is the other north-south roadway considered, since it is improved in the present day conditions and also in close proximity of Tombstone Trail. Verde Road is not considered as an alternative, because the roadway is not currently improved. Figure 8 depicts the offsite distribution of the site traffic. Of the 30% trips that are towards Kingman, it is assumed that about 15% would be using Highway 68 and the rest would be using Shinarump and Aquarius Drive due to the close proximity of these roadways to Highway 66 and Interstate 40.

Aquarius Drive is assumed to be carrying 10% of the traffic, as a result of the type of development along its access points. It would also serve to alleviate some traffic congestion off of Aztec Road. Figure 9 presents the offsite ADT volumes of site traffic on major county roadways in 2015 and 2025.

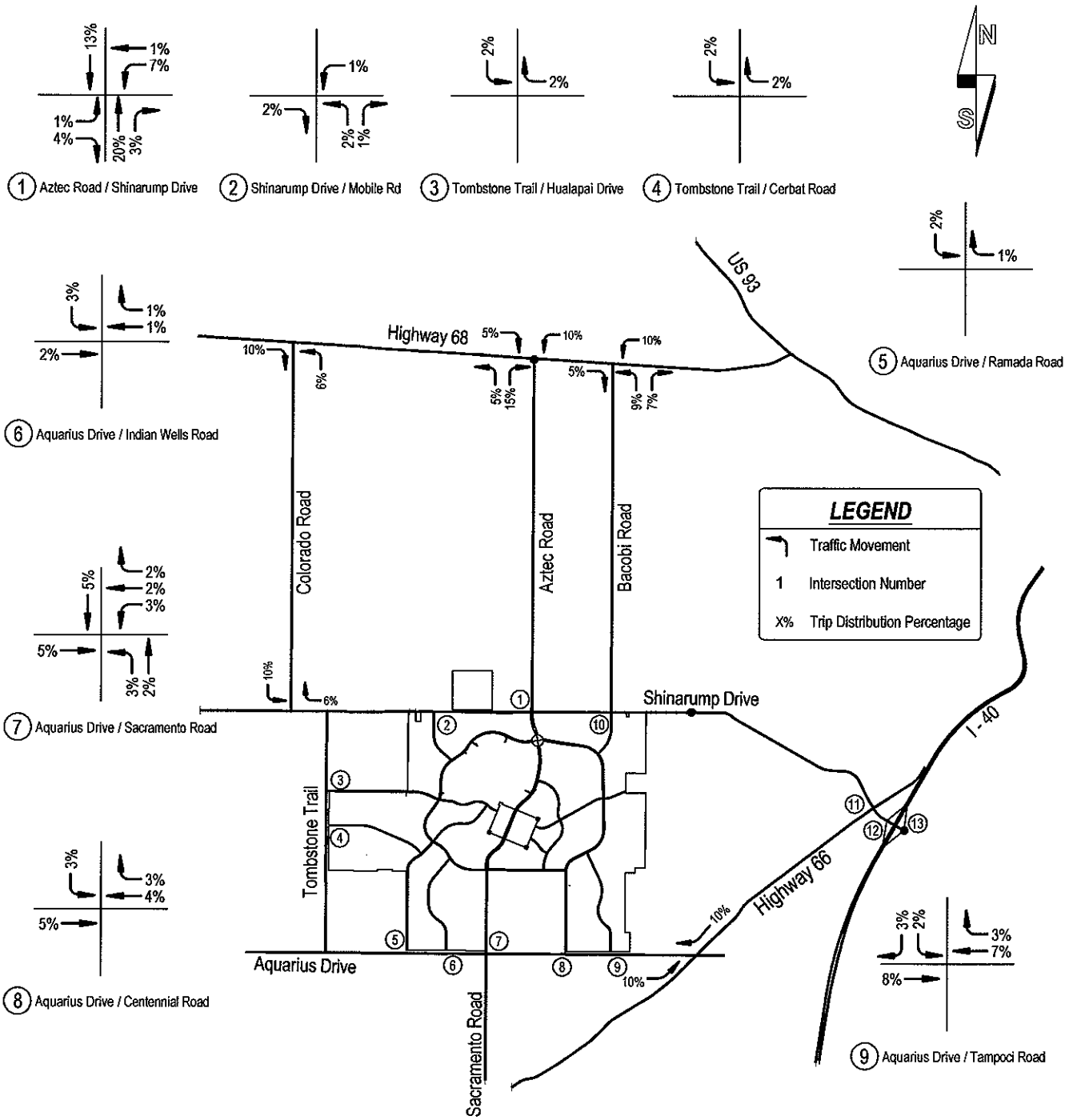
Figure 10 depicts the sections of roadways built in each phase of the Golden Valley Ranch community. Based on Tables 14 and 15, more offsite trips are observed during the P.M. peak hour. Therefore, the volumes during the P.M. peak hours are used for the planning analysis. Also the onsite and offsite trips per phase are distributed on the internal roadways to obtain the peak hour volumes. The ADT volumes are obtained using the assumption that the P.M. peak hour volumes are approximately 9% of the ADT volumes. The internal distribution for the different phases is performed assuming complete build out condition of the development for the purpose of planning. Table 16 presents the proposed internal distribution for different phases of the development.

Table 16 – Internal Trip Distribution by Phase during the P.M. Peak Hour

Roadway	Phase I (Peak Hour Volumes)	Phase II (Peak Hour Volumes)	Phase III (Peak Hour Volumes)	2015 Peak Hour Volumes	2015 ADT Volumes	Phase IV (Peak Hour Volumes)	Phase V (Peak Hour Volumes)	Phase VI (Peak Hour Volumes)	Phase VII (Peak Hour Volumes)	2025 Peak Hour Volumes	2025 ADT Volumes
East Loop Road (Section 1)	1,500	0	0	1,500	16,667		0	50	0	1,550	17,222
East Loop Road (Section 2)	1,000	1,500	0	2,500	27,778	250	0	50	0	2,800	31,111
East Loop Road (Section 3)	0	500	0	500	5,556	1,500	0	50	0	2,050	22,778
West Loop Road (Section 1)	750	0	0	750	8,333	0	0	50	0	800	8,889
West Loop Road (Section 2)	500	0	0	500	5,556	0	0	50	0	550	6,111
West Loop Road (Section 3)	0	0	1,500	1,500	16,667	0	0	50	0	1,550	17,222
Aztec Road Extension	1,000	1,000	500	2,500	27,778	250	100	0	500	3,350	37,222
Aztec Road (South of Roundabout)	1,000	1,000	500	2,500	27,778	250	100	0	500	3,350	37,222
Mobile Road Extension	1,000	0	0	1,000	11,111	0	0	0	500	1,500	16,667
Hualapai Drive Extension	500	0	250	750	8,333	0	0	400	0	1,150	12,778
Cerbat Road Extension	0	0	500	500	5,556	0	0	400	0	900	10,000
Ramada Road Extension	0	0	1,000	1,000	11,111	0	100	0	0	1,100	12,222
Indian Wells Road Extension	0	0	500	500	5,556	0	200	0	0	700	7,778
Sacramento Road Extension	500	1,000	1,000	2,500	27,778	0	250	0	0	2,750	30,556
Centennial Road Extension	0	500	0	500	5,556	2,000	0	0	0	2,500	27,778
Tampico Road Extension	0	0	0	0	0	2,000	0	0	0	2,000	22,222
TC Connecter	200	2,000	0	2,200	24,444	0	0	0	0	2,200	24,444
Bacobi Road Extension	1,500	1,500	0	3,000	33,333	250	0	0	100	3,350	37,222
East Middle Road	0	250	0	250	2,778	500	0	0	0	750	8,333

East Loop Road
Section 1 - Between Roundabout and Bacobi Road Extension
Section 2 - Between Bacobi Road Extension and Centennial Road
Section 3 - Between Centennial Road and Sacramento Road

West Loop Road
Section 1 - Between Roundabout and Mobile Road Extension
Section 2 - Between Mobile Road Extension and Ramada Road
Section 3 - Between Centennial Road and Sacramento Road



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Golden Valley Ranch
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Master Traffic Study

Offsite Distribution of Site Traffic

FIG. 8

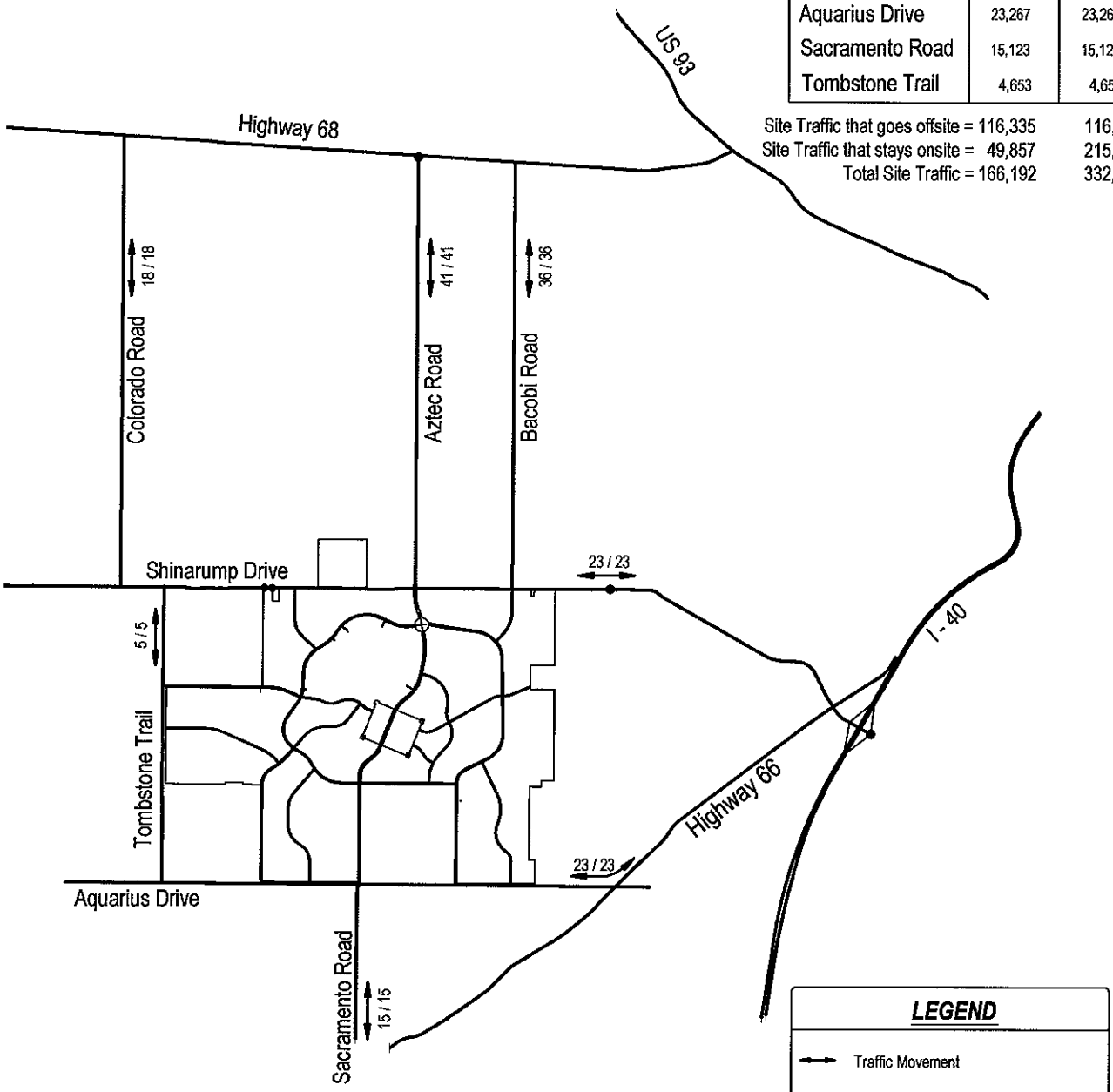
Year 2015 = ½ of the site developed
= 70% of Site Traffic goes offsite

Year 2025 = Full site developed
= 35% of Site Traffic goes offsite

Offsite Traffic

Roadway	2015 ADT Volumes	2025 ADT Volumes
Aztec Road	40,716	40,716
Bacobi Road	36,063	36,063
Colorado Drive	18,613	18,613
Shinarump Drive	23,267	23,267
Aquarius Drive	23,267	23,267
Sacramento Road	15,123	15,123
Tombstone Trail	4,653	4,653

Site Traffic that goes offsite =	116,335	116,335
Site Traffic that stays onsite =	49,857	215,644
Total Site Traffic =	166,192	332,385



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Offsite ADT Volumes of Site Traffic

FIG. 9

ROADWAY SEGMENT

PHASE 1

S1 AZTEC RD. – SOUTH FROM SHINARUMP TO SOUTH OF FIRST ROUND-ABOUT.
S2 WEST LOOP RD. – WEST FROM ROUND-A BOUT TO POD 1 ENTRY.
S3 EAST LOOP RD. – EAST FROM ROUND-ABOUT TO POD 3 ENTRY.
S4 WEST LOOP RD. – SOUTH FROM POD 1 ENTRY TO TOWN CENTER CONNECTOR RD.
S5 TC CONNECTOR RD. – EAST FROM WEST LOOP RD. TO AZTEC RD. AT TOWNCENTER.
S6 AZTEC RD. – NORTH FROM TOWNCENTER CONNECTOR RD. TO POD 2 BRIDGE ENTRY.
S7 AZTEC RD. – NORTH FROM POD 2 BRIDGE ENTRY TO SOUTH OF FIRST ROUND-ABOUT.
S8 EAST LOOP RD. – EAST FROM POD 3 ENTRY RD. TO EAST TOWNCENTER CONNECTOR RD.
S9 APARTMENT CONNECTOR – NORTH FROM EAST LOOP RD. TO SHINARUMP RD.
S10 SHINARUMP RD. – WEST FROM AZTEC RD. TO AMADO ROAD.
S11 SHINARUMP RD. – EAST FROM AZTEC RD. TO YUMA RD.
S12 EAST TOWN CENTERCONNECTOR RD. – EAST FROM EAST LOOP RD. TO OUT PARCEL.
S13 WEST LOOP RD. – SOUTH FROM WEST TOWN CENTER CONNECTOR RD. TO RAMADA RD.
S14 HUALAPAI DRIVE – WEST FROM WEST LOOP RD. TO RAMADA RD.
S15 MOBILE ROAD – NORTH FROM WEST LOOP RD. TO 13 MILE WASH.

PHASE 2

S16 EAST LOOP RD. – SOUTH FROM EAST TOWN CENTER CONNECTOR RD. TO TAMPICO RD.
S17 TOWN CENTER CONNECTOR RD. – WEST FROM EAST LOOP RD. TO EAST MIDDLE RD.

PHASE 3

S18 AZTEC ROAD – SOUTH FROM TC CONNECTOR RD. TO LOOP ROAD.
S19 WEST LOOP RD. – WEST FROM 2nd ROUND-ABOUT TO RAMADA ROAD.
S20 RAMADA ROAD – EAST FROM WEST LOOP RD. TO WEST TOWN CENTER CONNECTOR RD.
S21 INDIAN WELLS ROAD – SOUTH FROM WEST LOOP RD. TO HOLY MOSES WASH.
S22 RAMADA ROAD – SOUTH FROM WEST LOOP RD. TO HOLY MOSES WASH.
S23 CERBAT DRIVE – WEST FROM RAMADA RD. TO 13 MILE WASH.

PHASE 4

S24 WEST LOOP RD. – EAST FROM 2nd ROUND-ABOUT TO CENTENNIAL ROAD.
S25 WEST LOOP RD. – EAST FROM CENTENNIAL RD. TO TAMPICO ROAD.
S26 TAMPICO ROAD – SOUTH FROM WEST LOOP RD. TP AQAURIUS DRIVE.
S27 CENTENNIAL ROAD – SOUTH FROM WEST LOOP RD. TO AQUARIUS DRIVE.
S28 AQUARIUS DRIVE – EAST FROM CENTENNIAL RD. TO TAMPICO ROAD.

PHASE 5

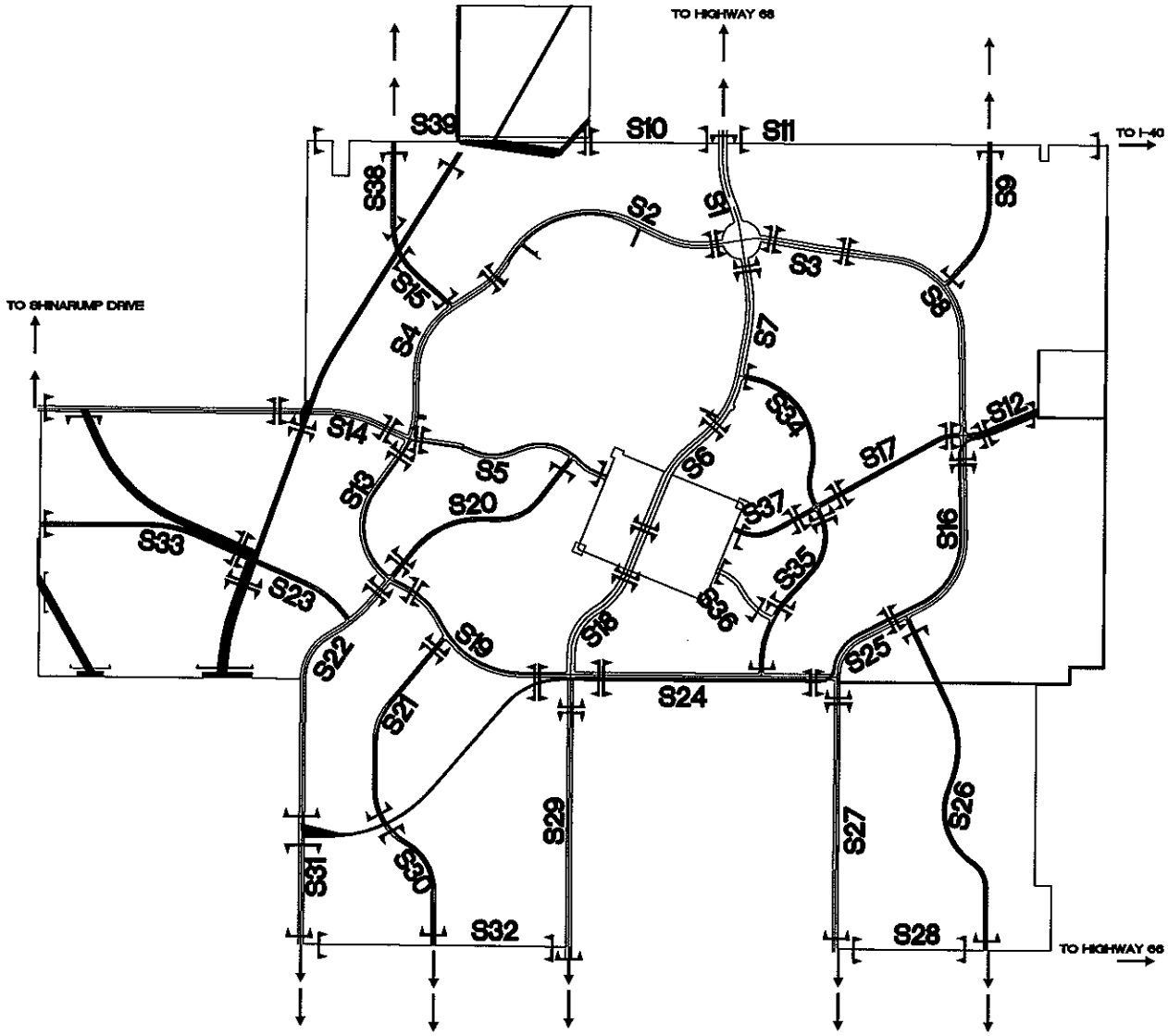
S29 SACRAMENTO ROAD – SOUTH FROM 2nd ROUND-ABOUT TO AQUARIUS DRIVE.
S30 INDIAN WELLS ROAD – SOUTH FROM HOLY MOSES WASH TO AQUARIUS DRIVE.
S31 RAMADA ROAD – SOUTH FROM HOLY MOSES WASH TO AQUARIUS DRIVE.
S32 AQUARIUS DRIVE – WEST FROM SACRAMENTO RD. TO RAMADA ROAD.

PHASE 6

S33 CERBAT DRIVE – WEST FROM 13 MILE WASH TO TOMBSTONE TRAIL

PHASE 7

S34 EAST MIDDLE RD. – BETWEEN AZTEC RD. AND TC CONNECTOR RD.
S35 EAST MIDDLE RD. – BETWEEN TC CONNECTOR RD. AND LOWER TC CONNECTOR RD.
S36 LOWER TC CONNECTOR – EAST FROM TC. TO EAST MIDDLE RD.
S37 EAST TC CONNECTOR RD. – EAST FROM TC CONNECTOR RD. TO EAST MIDDLE RD.
S38 MOBILE ROAD – NORTH FROM 13 MILE WASH TO SHINARUMP ROAD.
S39 SHINARUMP ROAD – WEST FROM AMADO RD. TO RAMADA ROAD.



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Roadway Segments

FIG. 10

CHAPTER 5 – BACKGROUND TRAFFIC

The build out year for the proposed development is estimated to be year 2025. As per the guidelines provided in the ADOT Traffic Impact Analysis Standards, traffic mitigation is required for the opening year of each phase, 5 years after opening and 15 years after opening. It is also suggested that an analysis of the horizon year for 5 years after opening is not required if the traffic impacts are fully mitigated 10 or 15 years after opening with existing conditions plus 5-year programmed improvements. As information regarding the opening of each phase is unknown at this time, the traffic analysis and identification of mitigation measures are performed for the year 2015 when the development is proposed to be half complete, the year of completion 2025, and 15 years after opening of the development. To estimate the future traffic volumes and to determine the number of lanes required on the major roadways around the proposed development, historical data on traffic counts in the region were obtained from ADOT. The historical ADOT traffic count data along Highway 68 between Verde Road and US 93 was initially used to determine the historical growth rate for the region. The historical data obtained from ADOT is plotted on Figure 11. A linear regression model/trend line was used to obtain the growth rate. From the linear regression or trend line, it was determined that the AADT volumes for the years 1992 through 2004 grow at an annual growth rate of less than 2%. Rather than using such a low growth rate, it was assumed that the future growth rate for the area roadways will be 5%.

Traffic volumes on roadways around the project site were projected for the horizon years identified. The traffic volumes on the various roadways around the project site were obtained from the Mohave County Public Works Division. It is assumed that Aquarius Drive will have similar background volumes as Shinarump Drive for the horizon years, and Sacramento Drive, Centennial Road and Ramada Road are assumed to have similar background volumes as Aztec Road to the north of Shinarump Drive. Using the 5% growth rate and the current volumes available, the projected traffic volumes are presented in Table 17.

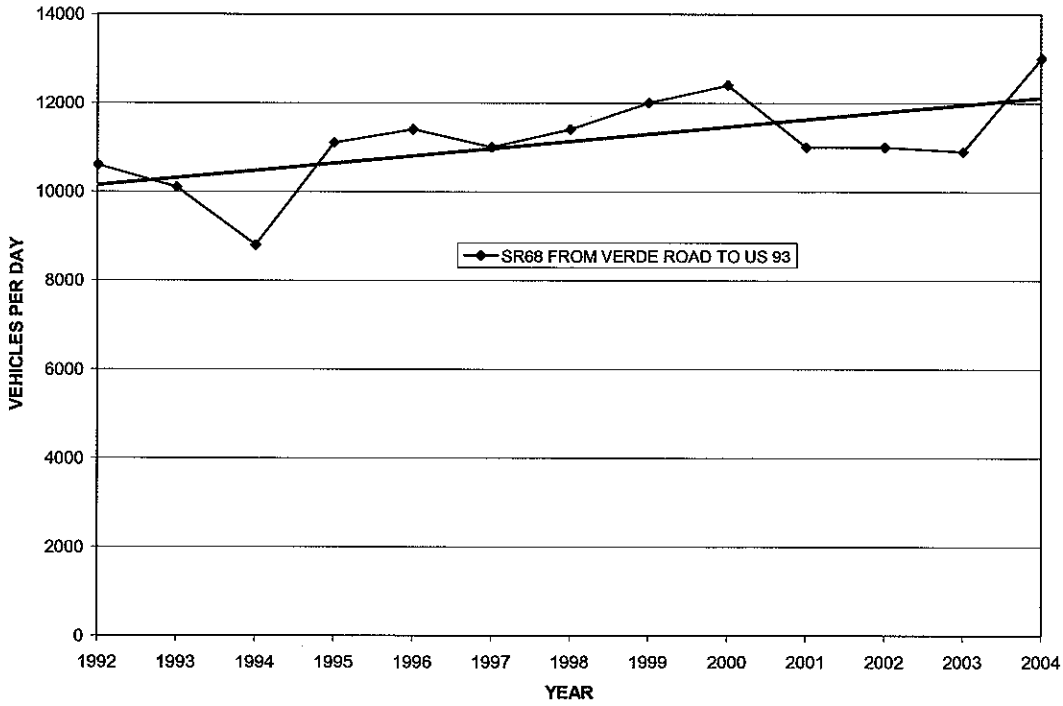
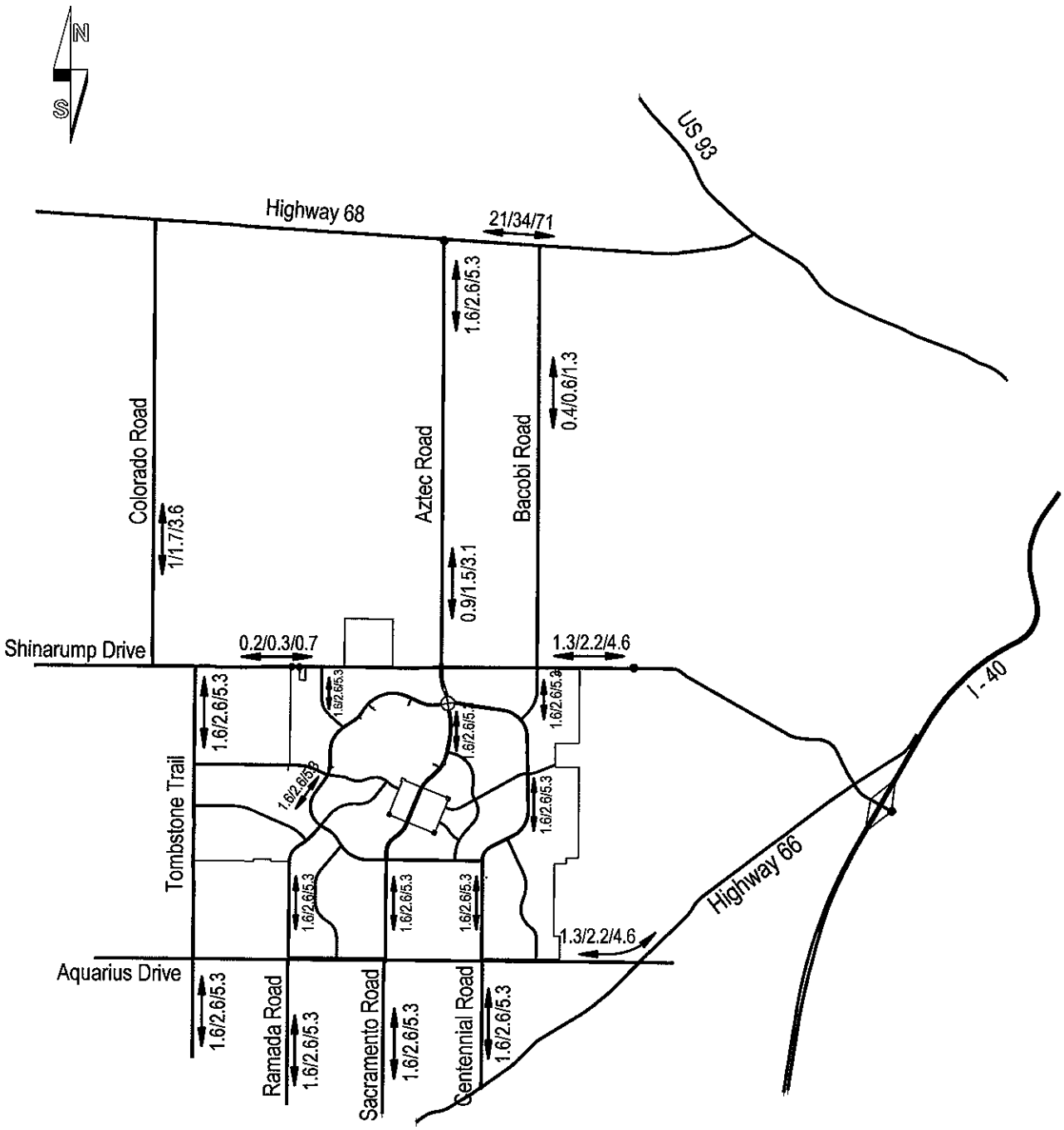


Figure 11 – AADT Volumes on SR 68 between Verde Road and US 93

Background traffic on Sacramento Road, Centennial Road and Ramada Road are assumed to use the roadways within the community to get to State Route 68. Figure 12 presents background traffic volumes for the study horizons on the major roadways within and around the community.

Table 17 – Existing and Project Traffic Volumes on County Roadways

Roadway	Direction	Location	2003 Volumes (ADT)	2015 Projected Volumes (ADT)	2025 Projected Volumes (ADT)	2040 Projected Volumes (ADT)
Highway 68	E - W	Between Verde Rd & US 93	11,700	21,012	34,226	71,152
Colorado Road	N - S	2010' south of Highway 68	596	1,070	1,743	3,625
Aztec Road	N - S	0.1 mile south of Highway 68	877	1,575	2,565	5,333
Aztec Road	N - S	0.1 mile north of Shinarump Road	513	921	1,501	3,120
Bacobi Road	N - S	1 mile north of Shinarump Drive	211	379	617	1,283
Shinarump Road	E - W	480' west of Aztec Road	106	190	310	645
Shinarump Road	E - W	1660' north of Oatman Road	753	1,352	2,203	4,579
Aquarius Drive	E - W		-	1,352	2,203	4,579
Sacramento Road	N - S		-	1,575	2,565	5,333
Centennial Road	N - S		-	1,575	2,565	5,333
Ramada Road	N - S		-	1,575	2,565	5,333



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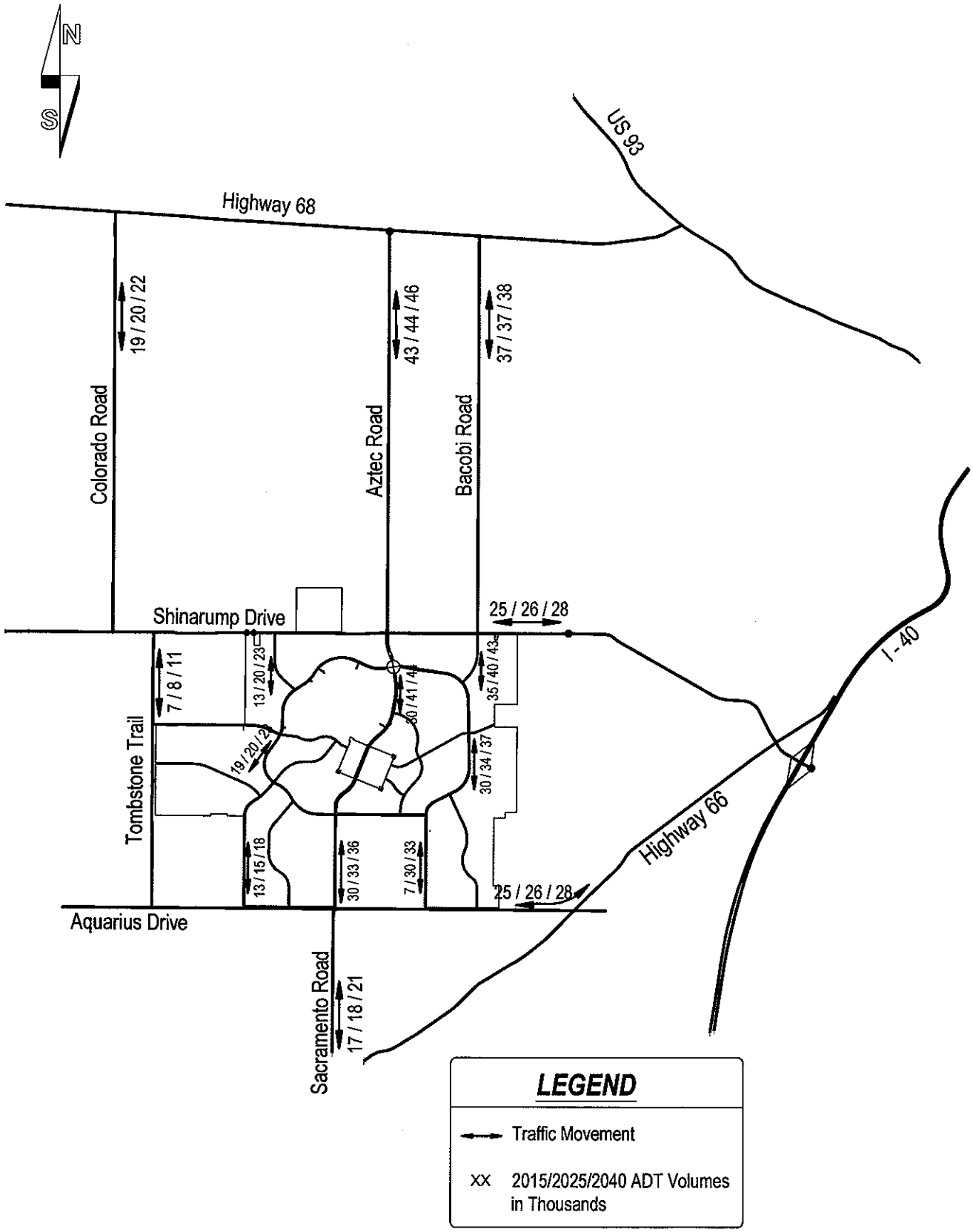
Golden Valley Ranch
at Aztec Road & Shinarump Drive
Master Traffic Study

Background Traffic on Major Roadways

FIG. 12

CHAPTER 6 – FORECAST TRAFFIC VOLUMES

The forecast traffic volumes for the study horizon years were determined by combining the site traffic and the background volumes. Figure 13 presents the ADT volumes on various roadways inside and outside the proposed Golden Valley Ranch Community for the years 2015, 2025 and 2040. These forecast volumes were used to perform the planning analysis.



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Master Traffic Study

Background+Site Traffic Volumes on Major Roadways

FIG. 13

ST-RH038101

CHAPTER 7 – TRAFFIC ANALYSIS

PLANNING ANALYSIS

The future traffic volumes were developed in Chapter 6. As suggested in the ADOT traffic study guidelines, the ADT volumes were estimated for the years 2015, 2025 and 2040. A planning analysis was performed using the HCS+ software to determine the basic number of lanes for various roadways. The following assumptions were made in performing the arterial analysis using the Highway Capacity Software (HCS+)

- The signal cycle length is 90 seconds.
- The green to cycle (g/c) ratio of 0.60.
- The directional distribution is 0.5.
- All the major roadways within and outside the community have medians and left turn bays at major intersections.
- All the roadway segments analyzed are assumed to be signalized at either end.
- Major roadways are classified as urban class 2 and the interior roadways are classified as urban class 3.
- The number of lanes and design speed (free flow speed) are planned based on the traffic volumes to achieve a desirable LOS.

The planning analyses were performed using the P.M. peak hour volumes, as the offsite trips are higher during the P.M. peak hour compared to the other peak hours. Table 18 presents a summary of the planned number of lanes, design speed and the achieved LOS for the horizon years on the exterior roadways. Table 19 presents a summary of the planned number of lanes, design speed and achieved LOS for the horizon years on the interior roadways. The results may be slightly over rated because of the assumption that each of the roadway segments analyzed are assumed to be signalized at either end. The results from the HCS analysis are attached in the Appendix B. As can be observed the LOS on all the interior and exterior roadways is within the acceptable limits.

Table 18 – Results from HCS Analysis for Exterior Roadways

Roadway	Number of Lanes	Design Speed (mph)	2015 LOS	2025 LOS	2040 LOS
Aquarius Drive	4	40	A	A	A
Aztec Road	6	45	A	A	A
Bacobi Road	4	45	A	A	A
Colorado Road	4	45	A	A	A
Sacramento Road	4	40	A	A	A
Shinarump Road	6	45	A	A	A
Tombstone Trail	4	40	A	A	A

Table 19 – Results from HCS Analysis for Interior Roadways

Roadway	Number of Lanes	Design Speed (mph)	2015 LOS	2025 LOS	2040 LOS
Aztec Road Extension	6	45	A	A	A
Bacobi Road Extension	4	35	B	B	B
Centennial Road Extension	4	35	A	B	B
Cerbat Road Extension	4	35	A	A	A
East Loop Road	4	35	B	B	B
East Middle Road	4	30	B	B	B
Hualapai Drive Extension	4	30	B	B	B
Indian Wells Road Extension	4	30	B	B	B
Mobile Road Extension	4	35	B	B	B
Ramada Road Extension	4	35	A	A	A
Sacramento Road Extension	6	45	A	B	B
Town Center Connector	4	30	B	B	B
West Loop Road	4	35	B	B	B

The typical Mohave County roadways cross sections are proposed to be used for the roadways outside the community. The Mohave County typical roadway cross sections are provided in the technical appendix. Stanley Consultants and Rhodes Homes, Arizona coordinated with Mohave County Public Works in developing project specific roadway cross sections inside the community. The typical roadway cross sections are included in the technical appendix. The intersections of major arterials are proposed to be developed as per the City of Mesa standards, which are also included in the technical appendix.

ROUNDABOUT DESIGN

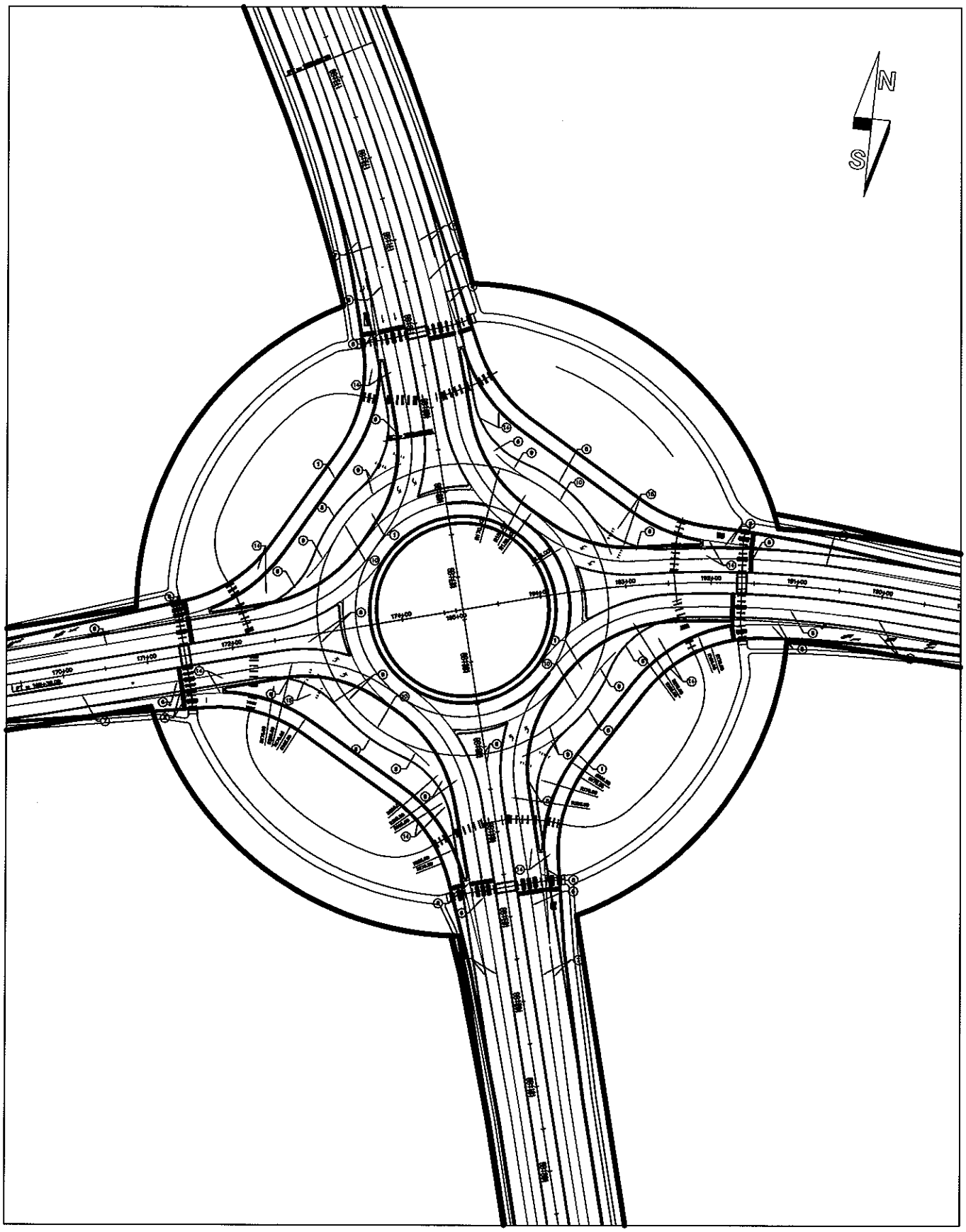
The intersection of Aztec Road Extension and Loop Road in the north of the community is proposed to be a roundabout instead of a signalized intersection. Roundabouts are proven in many cases to be safer than signalized intersections. The roundabout will be designed using the British "RODEL" software and it will be designed to provide am excellent LOS in the ultimate

conditions (year 2040). The interim roundabout will be designed so that it can be easily widened to accommodate the ultimate year 2040 volumes. The P.M. peak hour traffic volumes will be the design hour volumes.

The major design factors in the design of the roundabout are:

- Entry Radius
- Exit Radius
- Inscribed Circle Diameter
- Approach and Intersection Sight Distances
- Flaring of Entry Roadway
- Design Speed

All the above mentioned criteria will require detailed traffic volumes and detailed geometric analyses. Figure 14 provides a preliminary conceptual design of the roundabout. The ultimate configuration of the roundabout is envisioned to include two lanes with a bypass lane for the right turn movements on all approaches. As per a preliminary analysis performed using RODEL a roundabout design software, the conceptual roundabout is proposed to provide a LOS of B or C for the traffic during the P.M. peak hour in the year 2040.



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Golden Valley Ranch
at Aztec Road & Shinarump Drive
Master Traffic Study

Roundabout
Preliminary
Conceptual Design

FIG.
14

CHAPTER 8 – CONCLUSIONS AND RECOMMENDATIONS

Recommendations provided in the Traffic Analysis section the roadways for the interim and ultimate conditions. As per Mohave County Standards for the preparation and Evaluation of Traffic Impact Analyses and ADOT guidelines, a traffic impact analysis will be performed for each phase of the proposed master planned community. An operational capacity analyses will be performed for the identified study intersections by phase to determine satisfactory cross sections, number of lanes as well as traffic control at these intersections in the phase wise traffic impact analyses.

Appendix A

Analyses Worksheets

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - OVERALL TRIP GENERATION
A.M. PEAK HOUR

Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trips	Peak Hour Trips	Enter	Exit
210	Single Family Dwelling Units	9,341	DU	AM Peak	77,919	5,916	1,479	4,437
220	Apartment	1,539	DU	AM Peak	17,163	1,259	252	1,007
232	High Rise Condominiums	10,000	DU	AM Peak	12,540	905	172	733
251	Senior Adult Housing-Detached	13,675	DU	AM Peak	65,700	2,824	1,073	1,751
412	County Park	74.1	Acres	AM Peak	542	2	2	0
430	Golf Course	276.5	Acres	AM Peak	1,257	48	36	13
520	Elementary School	500	Students	AM Peak	645	210	116	95
522	Middle School	800	Students	AM Peak	1,296	424	233	191
530	High School	1,500	Students	AM Peak	2,565	615	424	191
710	General Office Building	3,163.2	KSF	AM Peak	34,662	4,880	4,294	586
820	Shopping Center	2,041.9	KSF	AM Peak	88,835	2,131	1,300	831
				TOTALS:	**303,125**	**19,214**	**9,380**	**9,833**

5/10/2006

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GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE I TRIP GENERATION
A.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak hour Trips		
								Average Rate / Regression Equation	Enter	Exit
1	251	Senior Adult Housing-Detached	850	DU	AM Peak	3.71	3,154	Ln(T)=0.86Ln(X)-0.63	38%	62%
								176	67	109
2	251	Senior Adult Housing-Detached	815	DU	AM Peak	3.71	3,024	Ln(T)=0.86Ln(X)-0.63	38%	62%
								170	65	105
3	210	Single Family Dwelling Units	151	DU	AM Peak	9.57	1,445	T =0.7(X)+9.43	25%	75%
								115	29	86
4	210	Single Family Dwelling Units	271	DU	AM Peak	9.57	2,593	T =0.7(X)+9.43	25%	75%
								199	50	149
5	210	Single Family Dwelling Units	262	DU	AM Peak	9.57	2,507	T =0.7(X)+9.43	25%	75%
								193	48	145
7	220	Apartment	1,539	DU	AM Peak	6.72	10,342	T =0.49(X)+3.73	20%	80%
								758	152	606
8	210	Single Family Dwelling Units	337	DU	AM Peak	9.57	3,225	T =0.7(X)+9.43	25%	75%
								245	61	184
9	210	Single Family Dwelling Units	332	DU	AM Peak	9.57	3,177	T =0.7(X)+9.43	25%	75%
								242	60	181
10	210	Single Family Dwelling Units	405	DU	AM Peak	9.57	3,876	T =0.7(X)+9.43	25%	75%
								293	73	220
11	210	Single Family Dwelling Units	297	DU	AM Peak	9.57	2,842	T =0.7(X)+9.43	25%	75%
								217	54	163
54	251	Senior Adult Housing-Detached	231	DU	AM Peak	3.71	857	Ln(T)=0.86Ln(X)-0.63	38%	62%
								57	22	36
55	251	Senior Adult Housing-Detached	207	DU	AM Peak	3.71	768	Ln(T)=0.86Ln(X)-0.63	38%	62%
								52	20	32
59	251	Senior Adult Housing-Detached	250	DU	AM Peak	3.71	928	Ln(T)=0.86Ln(X)-0.63	38%	62%
								61	23	38
60	251	Senior Adult Housing-Detached	416	DU	AM Peak	3.71	1,543	Ln(T)=0.86Ln(X)-0.63	38%	62%
								95	36	59
61	251	Senior Adult Housing-Detached	263	DU	AM Peak	3.71	976	Ln(T)=0.86Ln(X)-0.63	38%	62%
								64	24	40
62	251	Senior Adult Housing-Detached	169	DU	AM Peak	3.71	627	Ln(T)=0.86Ln(X)-0.63	38%	62%
								44	17	27
	412	County Park	14.0	Acres	AM Peak	2.28	32	0.01	80%	20%
								0	0	0
	520	Elementary School	500	Students	AM Peak	1.29	645	0.42	55%	45%
								210	116	95
	522	Middle School	800	Students	AM Peak	1.62	1,296	0.53	55%	45%
								424	233	191
	530	High School	1,500	Students	AM Peak	1.71	2,565	0.41	69%	31%
								615	424	191
	430	Golf Course	249.5	Acres	AM Peak	5.04	1,257	Ln(T)=0.63Ln(X)+0.40	74%	26%
								48	36	13
	232	High-Rise Condominiums	2,627	DU	AM Peak	4.18	3,294	T =(0.29(X)+28.86)*0.3	19%	81%
								237	45	192
	820	Shopping Center	265.4	KSF	AM Peak	42.94	11,395	1.03	61%	39%
								273	167	107
						TOTALS:	**62,368**	**4,791**	**1,822**	**2,969**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE II TRIP GENERATION
A.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
15	210	Single Family Dwelling Units	525	DU	AM Peak	9.57	5,024	T =0.7(X)+9.43	25%	75%
								377	94	283
16	210	Single Family Dwelling Units	567	DU	AM Peak	9.57	5,426	T =0.7(X)+9.43	25%	75%
								406	102	305
17	210	Single Family Dwelling Units	279	DU	AM Peak	9.57	2,670	T =0.7(X)+9.43	25%	75%
								205	51	154
18	210	Single Family Dwelling Units	350	DU	AM Peak	9.57	3,350	T =0.7(X)+9.43	25%	75%
								254	64	191
19	210	Single Family Dwelling Units	393	DU	AM Peak	9.57	3,761	T =0.7(X)+9.43	25%	75%
								285	71	213
20	210	Single Family Dwelling Units	673	DU	AM Peak	9.57	6,441	T =0.7(X)+9.43	25%	75%
								481	120	360
21	210	Single Family Dwelling Units	363	DU	AM Peak	9.57	3,474	T =0.7(X)+9.43	25%	75%
								264	66	198
	412	County Park	7.0	Acres	AM Peak	2.28	16	0.01	80%	20%
								0	0	0
	412	Town Center Park	53.4	Acres	AM Peak	2.28	122	0.01	80%	20%
								1	0	0
	232	High-Rise Condominiums	3,961	DU	AM Peak	4.18	4,967	T =(0.29(X)+28.86)*0.3	19%	81%
								353	67	286
	820	Shopping Center	400.2	KSF	AM Peak	42.94	17,185	1.03	61%	39%
								412	251	161
						TOTALS:	**52,435**	**3,037**	**887**	**2,150**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE III TRIP GENERATION
A.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak hour Trips		
								Average Rate / Regression Equation	Enter	Exit
33	220	Apartment	1,015	DU	AM Peak	6.72	6,821	T =0.49(X)+3.73	20%	80%
								501	100	401
39	251	Senior Adult Housing-Detached	196	DU	AM Peak	3.71	727	Ln(T)=0.86Ln(X)-0.63	38%	62%
								50	19	31
40	251	Senior Adult Housing-Detached	297	DU	AM Peak	3.71	1,102	Ln(T)=0.86Ln(X)-0.63	38%	62%
								71	27	44
41	251	Senior Adult Housing-Detached	611	DU	AM Peak	3.71	2,267	Ln(T)=0.86Ln(X)-0.63	38%	62%
								133	50	82
42	251	Senior Adult Housing-Detached	416	DU	AM Peak	3.71	1,543	Ln(T)=0.86Ln(X)-0.63	38%	62%
								95	36	59
43	251	Senior Adult Housing-Detached	591	DU	AM Peak	3.71	2,193	Ln(T)=0.86Ln(X)-0.63	38%	62%
								129	49	80
44	251	Senior Adult Housing-Detached	425	DU	AM Peak	3.71	1,577	Ln(T)=0.86Ln(X)-0.63	38%	62%
								97	37	60
45	251	Senior Adult Housing-Detached	407	DU	AM Peak	3.71	1,510	Ln(T)=0.86Ln(X)-0.63	38%	62%
								93	36	58
46	251	Senior Adult Housing-Detached	485	DU	AM Peak	3.71	1,799	Ln(T)=0.86Ln(X)-0.63	38%	62%
								109	41	67
53	251	Senior Adult Housing-Detached	297	DU	AM Peak	3.71	1,102	Ln(T)=0.86Ln(X)-0.63	38%	62%
								71	27	44
	412	County Park	7.0	Acres	AM Peak	2.28	16	0.01	80%	20%
								0	0	0
	232	High-Rise Condominiums	1,365	DU	AM Peak	4.18	1,712	T =(0.29(X)+28.86)*0.3	19%	81%
								127	24	103
	820	Shopping Center	137.9	KSF	AM Peak	42.94	5,924	1.03	61%	39%
								142	87	55
						TOTALS:	**28,292**	**1,619**	**533**	**1,085**

Stanley Consultants INC.

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE IV TRIP GENERATION
A.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
22	210	Single Family Dwelling Units	270	DU	AM Peak	9.57	2,584	T =0.7(X)+9.43	25%	75%
								198	50	149
23	210	Single Family Dwelling Units	244	DU	AM Peak	9.57	2,335	T =0.7(X)+9.43	25%	75%
								180	45	135
24	210	Single Family Dwelling Units	264	DU	AM Peak	9.57	2,526	T =0.7(X)+9.43	25%	75%
								194	49	146
25	210	Single Family Dwelling Units	535	DU	AM Peak	9.57	5,120	T =0.7(X)+9.43	25%	75%
								384	96	288
26	210	Single Family Dwelling Units	296	DU	AM Peak	9.57	2,833	T =0.7(X)+9.43	25%	75%
								217	54	162
27	210	Single Family Dwelling Units	299	DU	AM Peak	9.57	2,861	T =0.7(X)+9.43	25%	75%
								219	55	164
28	210	Single Family Dwelling Units	316	DU	AM Peak	9.57	3,024	T =0.7(X)+9.43	25%	75%
								231	58	173
29	210	Single Family Dwelling Units	224	DU	AM Peak	9.57	2,144	T =0.7(X)+9.43	25%	75%
								166	42	125
30	710	General Office Building	506.4	KSF	AM Peak	11.01	5,575	1.55	88%	12%
								785	691	94
31	710	General Office Building	571.8	KSF	AM Peak	11.01	6,296	1.55	88%	12%
								886	780	106
32	710	General Office Building	851.9	KSF	AM Peak	11.01	9,380	1.55	88%	12%
								1320	1162	158
	820	Commercial (Shopping Center)	303.1	KSF	AM Peak	42.94	13,015	1.03	61%	39%
								312	190	122
	232	High-Rise Condominiums	2,047	DU	AM Peak	4.18	2,567	T =(0.29(X)+28.86)*0.3	19%	81%
								187	35	151
	820	Shopping Center	206.9	KSF	AM Peak	42.94	8,884	1.03	61%	39%
								213	130	83
						TOTALS:	**69,144**	**5,493**	**3,436**	**2,057**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE V TRIP GENERATION
A.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
34	251	Senior Adult Housing-Detached	472	DU	AM Peak	3.71	1,751	Ln(T)=0.86Ln(X)-0.63	38%	62%
								106	40	66
35	251	Senior Adult Housing-Detached	519	DU	AM Peak	3.71	1,925	Ln(T)=0.86Ln(X)-0.63	38%	62%
								115	44	71
36	251	Senior Adult Housing-Detached	524	DU	AM Peak	3.71	1,944	Ln(T)=0.86Ln(X)-0.63	38%	62%
								116	44	72
37	251	Senior Adult Housing-Detached	253	DU	AM Peak	3.71	939	Ln(T)=0.86Ln(X)-0.63	38%	62%
								62	24	39
38	251	Senior Adult Housing-Detached	298	DU	AM Peak	3.71	1,106	Ln(T)=0.86Ln(X)-0.63	38%	62%
								71	27	44
						TOTALS:	**7,665**	**471**	**179**	**292**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE VI TRIP GENERATION
A.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
47	251	Senior Adult Housing-Detached	555	DU	AM Peak	3.71	2,059	Ln(T)=0.86Ln(X)-0.63	38%	62%
								122	46	76
48	251	Senior Adult Housing-Detached	475	DU	AM Peak	3.71	1,762	Ln(T)=0.86Ln(X)-0.63	38%	62%
								107	41	66
49	251	Senior Adult Housing-Detached	122	DU	AM Peak	3.71	453	Ln(T)=0.86Ln(X)-0.63	38%	62%
								33	13	21
50	251	Senior Adult Housing-Detached	404	DU	AM Peak	3.71	1,499	Ln(T)=0.86Ln(X)-0.63	38%	62%
								93	35	58
51	251	Senior Adult Housing-Detached	331	DU	AM Peak	3.71	1,228	Ln(T)=0.86Ln(X)-0.63	38%	62%
								78	30	49
52	251	Senior Adult Housing-Detached	556	DU	AM Peak	3.71	2,063	Ln(T)=0.86Ln(X)-0.63	38%	62%
								122	46	76
						TOTALS:	**9,064**	**555**	**211**	**344**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE VII TRIP GENERATION
A.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
6	210	Single Family Dwelling Units	489	DU	AM Peak	9.57	4,680	T =0.7(X)+9.43	25%	75%
								352	88	264
12	710	General Office Building	439.5	KSF	AM Peak	11.01	4,839	1.55	88%	12%
								681	600	82
13	710	General Office Building	363.3	KSF	AM Peak	11.01	4,000	1.55	88%	12%
								563	496	68
14	710	General Office Building	415.2	KSF	AM Peak	11.01	4,571	1.55	88%	12%
								644	566	77
56	251	Senior Adult Housing-Detached	481	DU	AM Peak	3.71	1,785	Ln(T)=0.86Ln(X)-0.63	38%	62%
								108	41	67
57	251	Senior Adult Housing-Detached	311	DU	AM Peak	3.71	1,154	Ln(T)=0.86Ln(X)-0.63	38%	62%
								74	28	46
58	251	Senior Adult Housing-Detached	181	DU	AM Peak	3.71	672	Ln(T)=0.86Ln(X)-0.63	38%	62%
								47	18	29
	412	County Park	156.5	Acres	AM Peak	2.28	357	0.01	80%	20%
								2	1	0
	820	Shopping Center	367.0	KSF	AM Peak	42.94	15,761	1.03	61%	39%
								378	231	147
	820	Shopping Center	388.3	KSF	AM Peak	42.94	16,673	1.03	61%	39%
								400	244	156
						TOTALS:	**54,491**	**3,248**	**2,312**	**936**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - OVERALL TRIP GENERATION
P.M. PEAK HOUR

Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trips	Peak Hour Trips	Enter	Exit
210	Single Family Dwelling Units	9,341	DU	PM Peak	77,919	8,223	5,181	3,043
220	Apartment	1,539	DU	PM Peak	17,163	1,440	936	504
232	High Rise Condominiums	10,000	DU	PM Peak	41,800	3,462	2,146	1,316
251	Senior Adult Housing-Detached	13,675	DU	PM Peak	65,700	4,060	2,477	1,583
412	County Park	74.1	Acres	PM Peak	542	12	9	2
430	Golf Course	276.5	Acres	PM Peak	1,257	64	22	42
520	Elementary School	600	Students	PM Peak	645	140	63	77
522	Middle School	1,200	Students	PM Peak	1,296	120	62	58
530	High School	1,200	Students	PM Peak	2,565	210	99	111
710	General Office Building	3,163.2	KSF	PM Peak	34,662	4,691	797	3,893
820	Shopping Center	2,041.9	KSF	PM Peak	88,835	6,934	3,369	3,565
				TOTALS:	**332,385**	**29,355**	**15,161**	**14,194**

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Stanley Consultants INC.

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE I TRIP GENERATION
P.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak hour Trips		
								Average Rate / Regression Equation	Enter	Exit
1	251	Senior Adult Housing-Detached	850	DU	PM Peak	3.71	3,154	Ln(T)=0.72Ln(X)+0.58	61%	39%
								230	140	90
2	251	Senior Adult Housing-Detached	815	DU	PM Peak	3.71	3,024	Ln(T)=0.72Ln(X)+0.58	61%	39%
								223	136	87
3	210	Single Family Dwelling Units	151	DU	PM Peak	9.57	1,445	1.01	63%	37%
								153	96	56
4	210	Single Family Dwelling Units	271	DU	PM Peak	9.57	2,593	1.01	63%	37%
								274	172	101
5	210	Single Family Dwelling Units	262	DU	PM Peak	9.57	2,507	1.01	63%	37%
								265	167	98
7	220	Apartment	1,539	DU	PM Peak	6.72	10,342	T =0.55(X)+17.65	65%	35%
								864	562	302
8	210	Single Family Dwelling Units	337	DU	PM Peak	9.57	3,225	1.01	63%	37%
								340	214	126
9	210	Single Family Dwelling Units	332	DU	PM Peak	9.57	3,177	1.01	63%	37%
								335	211	124
10	210	Single Family Dwelling Units	405	DU	PM Peak	9.57	3,876	1.01	63%	37%
								409	258	151
11	210	Single Family Dwelling Units	297	DU	PM Peak	9.57	2,842	1.01	63%	37%
								300	189	111
54	251	Senior Adult Housing-Detached	231	DU	PM Peak	3.71	857	Ln(T)=0.72Ln(X)+0.58	61%	39%
								90	55	35
55	251	Senior Adult Housing-Detached	207	DU	PM Peak	3.71	768	Ln(T)=0.72Ln(X)+0.58	61%	39%
								83	51	32
59	251	Senior Adult Housing-Detached	250	DU	PM Peak	3.71	928	Ln(T)=0.72Ln(X)+0.58	61%	39%
								95	58	37
60	251	Senior Adult Housing-Detached	416	DU	PM Peak	3.71	1,543	Ln(T)=0.72Ln(X)+0.58	61%	39%
								137	84	54
61	251	Senior Adult Housing-Detached	263	DU	PM Peak	3.71	976	Ln(T)=0.72Ln(X)+0.58	61%	39%
								99	60	38
62	251	Senior Adult Housing-Detached	169	DU	PM Peak	3.71	627	Ln(T)=0.72Ln(X)+0.58	61%	39%
								72	44	28
	412	County Park	14.0	Acres	PM Peak	2.28	32	0.06	80%	20%
								1	1	0
	520	Elementary School	500	Students	PM Peak	1.29	645	0.28	45%	55%
								140	63	77
	522	Middle School	800	Students	PM Peak	1.62	1,296	0.15	52%	48%
								120	62	58
	530	High School	1,500	Students	PM Peak	1.71	2,565	0.14	47%	53%
								210	99	111
	430	Golf Course	249.5	Acres	PM Peak	5.04	1,257	T =0.13(X)+31.30	34%	66%
								64	22	42
	232	High-Rise Condominiums	2,627	DU	PM Peak	4.18	10,981	T =0.34(X)+15.47	62%	38%
								909	563	345
	820	Shopping Center	265.4	KSF	PM Peak	42.94	11,395	3.75	48%	52%
								995	478	517
						TOTALS:	**70,055**	**6,406**	**3,784**	**2,622**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE II TRIP GENERATION
P.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
15	210	Single Family Dwelling Units	525	DU	PM Peak	9.57	5,024	1.01	63%	37%
								530	334	196
16	210	Single Family Dwelling Units	567	DU	PM Peak	9.57	5,426	1.01	63%	37%
								573	361	212
17	210	Single Family Dwelling Units	279	DU	PM Peak	9.57	2,670	1.01	63%	37%
								282	178	104
18	210	Single Family Dwelling Units	350	DU	PM Peak	9.57	3,350	1.01	63%	37%
								354	223	131
19	210	Single Family Dwelling Units	393	DU	PM Peak	9.57	3,761	1.01	63%	37%
								397	250	147
20	210	Single Family Dwelling Units	673	DU	PM Peak	9.57	6,441	1.01	63%	37%
								680	428	252
21	210	Single Family Dwelling Units	363	DU	PM Peak	9.57	3,474	1.01	63%	37%
								367	231	136
	412	County Park	7.0	Acres	PM Peak	2.28	16	0.06	80%	20%
								0	0	0
	412	Town Center Park	53.4	Acres	PM Peak	2.28	122	0.01	80%	20%
								1	0	0
	232	High-Rise Condominiums	3,961	DU	PM Peak	4.18	16,557	T =0.34(X)+15.47	62%	38%
								1362	845	518
	820	Shopping Center	400.2	KSF	PM Peak	42.94	17,185	3.75	48%	52%
								1501	720	780
						TOTALS:	**64,025**	**6,045**	**3,570**	**2,475**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE III TRIP GENERATION
P.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak hour Trips		
								Average Rate / Regression Equation	Enter	Exit
33	220	Apartment	1,015	DU	PM Peak	6.72	6,821	T =0.55(X)+17.65	65%	35%
								576	374	202
39	251	Senior Adult Housing-Detached	196	DU	PM Peak	3.71	727	Ln(T)=0.72Ln(X)+0.58	61%	39%
								80	49	31
40	251	Senior Adult Housing-Detached	297	DU	PM Peak	3.71	1,102	Ln(T)=0.72Ln(X)+0.58	61%	39%
								108	66	42
41	251	Senior Adult Housing-Detached	611	DU	PM Peak	3.71	2,267	Ln(T)=0.72Ln(X)+0.58	61%	39%
								181	110	71
42	251	Senior Adult Housing-Detached	416	DU	PM Peak	3.71	1,543	Ln(T)=0.72Ln(X)+0.58	61%	39%
								137	84	54
43	251	Senior Adult Housing-Detached	591	DU	PM Peak	3.71	2,193	Ln(T)=0.72Ln(X)+0.58	61%	39%
								177	108	69
44	251	Senior Adult Housing-Detached	425	DU	PM Peak	3.71	1,577	Ln(T)=0.72Ln(X)+0.58	61%	39%
								139	85	54
45	251	Senior Adult Housing-Detached	407	DU	PM Peak	3.71	1,510	Ln(T)=0.72Ln(X)+0.58	61%	39%
								135	82	53
46	251	Senior Adult Housing-Detached	485	DU	PM Peak	3.71	1,799	Ln(T)=0.72Ln(X)+0.58	61%	39%
								153	94	60
53	251	Senior Adult Housing-Detached	297	DU	PM Peak	3.71	1,102	Ln(T)=0.72Ln(X)+0.58	61%	39%
								108	66	42
	412	County Park	7.0	Acres	PM Peak	2.28	16	0.06	80%	20%
								0	0	0
	232	High-Rise Condominiums	1,365	DU	PM Peak	4.18	5,706	T =0.34(X)+15.47	62%	38%
								480	297	182
	820	Shopping Center	137.9	KSF	PM Peak	42.94	5,924	3.75	48%	52%
								517	248	269
						TOTALS:	**32,286**	**2,792**	**1,663**	**1,128**

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Stanley Consultants INC.

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE IV TRIP GENERATION
P.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
22	210	Single Family Dwelling Units	270	DU	PM Peak	9.57	2,584	1.01	63%	37%
								273	172	101
23	210	Single Family Dwelling Units	244	DU	PM Peak	9.57	2,335	1.01	63%	37%
								246	155	91
24	210	Single Family Dwelling Units	264	DU	PM Peak	9.57	2,526	1.01	63%	37%
								267	168	99
25	210	Single Family Dwelling Units	535	DU	PM Peak	9.57	5,120	1.01	63%	37%
								540	340	200
26	210	Single Family Dwelling Units	296	DU	PM Peak	9.57	2,833	1.01	63%	37%
								299	188	111
27	210	Single Family Dwelling Units	299	DU	PM Peak	9.57	2,861	1.01	63%	37%
								302	190	112
28	210	Single Family Dwelling Units	316	DU	PM Peak	9.57	3,024	1.01	63%	37%
								319	201	118
29	210	Single Family Dwelling Units	224	DU	PM Peak	9.57	2,144	1.01	63%	37%
								226	143	84
30	710	General Office Building	506.4	KSF	PM Peak	11.01	5,575	1.49	17%	83%
								755	128	626
31	710	General Office Building	571.8	KSF	PM Peak	11.01	6,296	1.49	17%	83%
								852	145	707
32	710	General Office Building	851.9	KSF	PM Peak	11.01	9,380	1.49	17%	83%
								1269	216	1054
	820	Commercial (Shopping Center)	303.1	KSF	PM Peak	42.94	13,015	1.03	61%	39%
								312	190	122
	232	High-Rise Condominiums	2,047	DU	PM Peak	4.18	8,556	T =0.34(X)+15.47	62%	38%
								711	441	270
	820	Shopping Center	206.9	KSF	PM Peak	42.94	8,884	3.75	48%	52%
								776	372	403
						TOTALS:	**75,133**	**7,148**	**3,050**	**4,097**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE V TRIP GENERATION
P.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
34	251	Senior Adult Housing-Detached	472	DU	PM Peak	3.71	1,751	Ln(T)=0.72Ln(X)+0.58	61%	39%
								150	92	59
35	251	Senior Adult Housing-Detached	519	DU	PM Peak	3.71	1,925	Ln(T)=0.72Ln(X)+0.58	61%	39%
								161	98	63
36	251	Senior Adult Housing-Detached	524	DU	PM Peak	3.71	1,944	Ln(T)=0.72Ln(X)+0.58	61%	39%
								162	99	63
37	251	Senior Adult Housing-Detached	253	DU	PM Peak	3.71	939	Ln(T)=0.72Ln(X)+0.58	61%	39%
								96	59	37
38	251	Senior Adult Housing-Detached	298	DU	PM Peak	3.71	1,106	Ln(T)=0.72Ln(X)+0.58	61%	39%
								108	66	42
						TOTALS:	**7,665**	**677**	**413**	**264**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE VI TRIP GENERATION
P.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
47	251	Senior Adult Housing-Detached	555	DU	PM Peak	3.71	2,059	Ln(T)=0.72Ln(X)+0.58	61%	39%
								169	103	66
48	251	Senior Adult Housing-Detached	475	DU	PM Peak	3.71	1,762	Ln(T)=0.72Ln(X)+0.58	61%	39%
								151	92	59
49	251	Senior Adult Housing-Detached	122	DU	PM Peak	3.71	453	Ln(T)=0.72Ln(X)+0.58	61%	39%
								57	35	22
50	251	Senior Adult Housing-Detached	404	DU	PM Peak	3.71	1,499	Ln(T)=0.72Ln(X)+0.58	61%	39%
								134	82	52
51	251	Senior Adult Housing-Detached	331	DU	PM Peak	3.71	1,228	Ln(T)=0.72Ln(X)+0.58	61%	39%
								116	71	45
52	251	Senior Adult Housing-Detached	556	DU	PM Peak	3.71	2,063	Ln(T)=0.72Ln(X)+0.58	61%	39%
								169	103	66
						TOTALS:	**9,064**	**797**	**486**	**311**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE VII TRIP GENERATION
P.M. PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
6	210	Single Family Dwelling Units	489	DU	PM Peak	9.57	4,680	1.01	63%	37%
								494	311	183
12	710	General Office Building	439.5	KSF	PM Peak	11.01	4,839	1.49	17%	83%
								655	111	544
13	710	General Office Building	363.3	KSF	PM Peak	11.01	4,000	1.49	17%	83%
								541	92	449
14	710	General Office Building	415.2	KSF	PM Peak	11.01	4,571	1.49	17%	83%
								619	105	513
56	251	Senior Adult Housing-Detached	481	DU	PM Peak	3.71	1,785	Ln(T)=0.72Ln(X)+0.58	61%	39%
								152	93	59
57	251	Senior Adult Housing-Detached	311	DU	PM Peak	3.71	1,154	Ln(T)=0.72Ln(X)+0.58	61%	39%
								111	68	43
58	251	Senior Adult Housing-Detached	181	DU	PM Peak	3.71	672	Ln(T)=0.72Ln(X)+0.58	61%	39%
								75	46	29
	412	County Park	156.5	Acres	PM Peak	2.28	357	0.06	80%	20%
								9	8	2
	820	Shopping Center	367.0	KSF	PM Peak	42.94	15,761	3.75	48%	52%
								1376	661	716
	820	Shopping Center	388.3	KSF	PM Peak	42.94	16,673	3.75	48%	52%
								1456	699	757
						TOTALS:	**54,491**	**5,490**	**2,194**	**3,296**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - OVERALL TRIP GENERATION
MIDDAY PEAK HOUR

Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trips	Peak Hour Trips	Enter	Exit
210	Single Family Dwelling Units	9,341	DU	Midday Peak Hour	77,919	8,305	5,315	2,990
220	Apartment	1,539	DU	Midday Peak Hour	17,163	1,567	956	611
232	High Rise Condominiums	10,000	DU	Midday Peak Hour	41,800	3,037	2,065	972
251	Senior Adult Housing-Detached	13,675	DU	Midday Peak Hour	65,700	4,343	2,562	1,781
412	County Park	74.1	Acres	Midday Peak Hour	542	109	39	71
430	Golf Course	276.5	Acres	Midday Peak Hour	1,257	97	42	55
520	Elementary School	600	Students	Midday Peak Hour	645	210	116	95
522	Middle School	1,200	Students	Midday Peak Hour	1,296	424	233	191
530	High School	1,200	Students	Midday Peak Hour	2,565	615	424	191
710	General Office Building	3,163.2	KSF	Midday Peak Hour	34,662	4,880	4,294	586
820	Shopping Center	2,041.9	KSF	Midday Peak Hour	88,835	2,131	1,300	831
				TOTALS:	**332,385**	**25,719**	**17,346**	**8,372**

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Stanley Consultants INC.

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE I TRIP GENERATION
MIDDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak hour Trips		
								Average Rate / Regression Equation	Enter	Exit
1	251	Senior Adult Housing-Detached	850	DU	Midday Peak Hour	3.71	3,154	0.35	59%	41%
								298	176	122
2	251	Senior Adult Housing-Detached	815	DU	Midday Peak Hour	3.71	3,024	0.35	59%	41%
								285	168	117
3	210	Single Family Dwelling Units	151	DU	Midday Peak Hour	9.57	1,445	1.02	64%	36%
								154	99	55
4	210	Single Family Dwelling Units	271	DU	Midday Peak Hour	9.57	2,593	1.02	64%	36%
								276	177	100
5	210	Single Family Dwelling Units	262	DU	Midday Peak Hour	9.57	2,507	1.02	64%	36%
								267	171	96
7	220	Apartment	1,539	DU	Midday Peak Hour	6.72	10,342	T 0.6(X)+17.52	61%	39%
								941	574	367
8	210	Single Family Dwelling Units	337	DU	Midday Peak Hour	9.57	3,225	1.02	64%	36%
								344	220	124
9	210	Single Family Dwelling Units	332	DU	Midday Peak Hour	9.57	3,177	1.02	64%	36%
								339	217	122
10	210	Single Family Dwelling Units	405	DU	Midday Peak Hour	9.57	3,876	1.02	64%	36%
								413	264	149
11	210	Single Family Dwelling Units	297	DU	Midday Peak Hour	9.57	2,842	1.02	64%	36%
								303	194	109
54	251	Senior Adult Housing-Detached	231	DU	Midday Peak Hour	3.71	857	0.35	59%	41%
								81	48	33
55	251	Senior Adult Housing-Detached	207	DU	Midday Peak Hour	3.71	768	0.35	59%	41%
								72	43	30
59	251	Senior Adult Housing-Detached	250	DU	Midday Peak Hour	3.71	928	0.35	59%	41%
								88	52	36
60	251	Senior Adult Housing-Detached	416	DU	Midday Peak Hour	3.71	1,543	0.35	59%	41%
								146	86	60
61	251	Senior Adult Housing-Detached	263	DU	Midday Peak Hour	3.71	976	0.35	59%	41%
								92	54	38
62	251	Senior Adult Housing-Detached	169	DU	Midday Peak Hour	3.71	627	0.35	59%	41%
								59	35	24
	412	County Park	14.0	Acres	Midday Peak Hour	2.28	32	0.59	35%	65%
								8	3	5
	520	Elementary School	500	Students	Midday Peak Hour	1.29	645	0.42	55%	45%
								210	116	95
	522	Middle School	800	Students	Midday Peak Hour	1.62	1,296	0.53	55%	45%
								424	233	191
	530	High School	1,500	Students	Midday Peak Hour	1.71	2,565	0.41	69%	31%
								615	424	191
	430	Golf Course	249.5	Acres	Midday Peak Hour	5.04	1,257	0.39	43%	57%
								97	42	55
	232	High-Rise Condominiums	2,627	DU	Midday Peak Hour	4.18	10,981	Ln(T)=0.84Ln(X)+0.07	68%	32%
								799	544	256
	820	Shopping Center	265.4	KSF	Midday Peak Hour	42.94	11,395	1.03	61%	39%
								273	167	107
						TOTALS:	**70,055**	**6,585**	**4,105**	**2,480**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE II TRIP GENERATION
MIDDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
15	210	Single Family Dwelling Units	525	DU	Midday Peak Hour	9.57	5,024	1.02	64%	36%
								536	343	193
16	210	Single Family Dwelling Units	567	DU	Midday Peak Hour	9.57	5,426	1.02	64%	36%
								578	370	208
17	210	Single Family Dwelling Units	279	DU	Midday Peak Hour	9.57	2,670	1.02	64%	36%
								285	182	102
18	210	Single Family Dwelling Units	350	DU	Midday Peak Hour	9.57	3,350	1.02	64%	36%
								357	228	129
19	210	Single Family Dwelling Units	393	DU	Midday Peak Hour	9.57	3,761	1.02	64%	36%
								401	257	144
20	210	Single Family Dwelling Units	673	DU	Midday Peak Hour	9.57	6,441	1.02	64%	36%
								686	439	247
21	210	Single Family Dwelling Units	363	DU	Midday Peak Hour	9.57	3,474	1.02	64%	36%
								370	237	133
	412	County Park	7.0	Acres	Midday Peak Hour	2.28	16	0.59	35%	65%
								4	1	3
	412	Town Center Park	53.4	Acres	Midday Peak Hour	2.28	122	0.01	80%	20%
								1	0	0
	232	High-Rise Condominiums	3,961	DU	Midday Peak Hour	4.18	16,557	Ln(T)=0.84Ln(X)+0.07	68%	32%
								1129	767	361
	820	Shopping Center	400.2	KSF	Midday Peak Hour	42.94	17,185	1.03	61%	39%
								412	251	161
						TOTALS:	**64,025**	**4,759**	**3,077**	**1,681**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE III TRIP GENERATION
MIDDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak hour Trips		
								Average Rate / Regression Equation	Enter	Exit
33	220	Apartment	1,015	DU	Midday Peak Hour	6.72	6,821	T 0.6(X)+17.52	61%	39%
								627	382	244
39	251	Senior Adult Housing-Detached	196	DU	Midday Peak Hour	3.71	727	0.35	59%	41%
								69	40	28
40	251	Senior Adult Housing-Detached	297	DU	Midday Peak Hour	3.71	1,102	0.35	59%	41%
								104	61	43
41	251	Senior Adult Housing-Detached	611	DU	Midday Peak Hour	3.71	2,267	0.35	59%	41%
								214	126	88
42	251	Senior Adult Housing-Detached	416	DU	Midday Peak Hour	3.71	1,543	0.35	59%	41%
								146	86	60
43	251	Senior Adult Housing-Detached	591	DU	Midday Peak Hour	3.71	2,193	0.35	59%	41%
								207	122	85
44	251	Senior Adult Housing-Detached	425	DU	Midday Peak Hour	3.71	1,577	0.35	59%	41%
								149	88	61
45	251	Senior Adult Housing-Detached	407	DU	Midday Peak Hour	3.71	1,510	0.35	59%	41%
								142	84	58
46	251	Senior Adult Housing-Detached	485	DU	Midday Peak Hour	3.71	1,799	0.35	59%	41%
								170	100	70
53	251	Senior Adult Housing-Detached	297	DU	Midday Peak Hour	3.71	1,102	0.35	59%	41%
								104	61	43
	412	County Park	7.0	Acres	Midday Peak Hour	2.28	16	0.59	35%	65%
								4	1	3
	232	High-Rise Condominiums	1,365	DU	Midday Peak Hour	4.18	5,706	Ln(T)=0.84Ln(X)+0.07	68%	32%
								461	314	148
	820	Shopping Center	137.9	KSF	Midday Peak Hour	42.94	5,924	1.03	61%	39%
								142	87	55
						TOTALS:	**32,286**	**2,538**	**1,553**	**985**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE IV TRIP GENERATION
MIDDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
22	210	Single Family Dwelling Units	270	DU	Midday Peak Hour	9.57	2,584	1.02	64%	36%
								275	176	99
23	210	Single Family Dwelling Units	244	DU	Midday Peak Hour	9.57	2,335	1.02	64%	36%
								249	159	90
24	210	Single Family Dwelling Units	264	DU	Midday Peak Hour	9.57	2,526	1.02	64%	36%
								269	172	97
25	210	Single Family Dwelling Units	535	DU	Midday Peak Hour	9.57	5,120	1.02	64%	36%
								546	349	196
26	210	Single Family Dwelling Units	296	DU	Midday Peak Hour	9.57	2,833	1.02	64%	36%
								302	193	109
27	210	Single Family Dwelling Units	299	DU	Midday Peak Hour	9.57	2,861	1.02	64%	36%
								305	195	110
28	210	Single Family Dwelling Units	316	DU	Midday Peak Hour	9.57	3,024	1.02	64%	36%
								322	206	116
29	210	Single Family Dwelling Units	224	DU	Midday Peak Hour	9.57	2,144	1.02	64%	36%
								228	146	82
30	710	General Office Building	506.4	KSF	Midday Peak Hour	11.01	5,575	1.55	88%	12%
								785	691	94
31	710	General Office Building	571.8	KSF	Midday Peak Hour	11.01	6,296	1.55	88%	12%
								886	780	106
32	710	General Office Building	851.9	KSF	Midday Peak Hour	11.01	9,380	1.55	88%	12%
								1320	1162	158
	820	Commercial (Shopping Center)	303.1	KSF	Midday Peak Hour	42.94	13,015	1.03	61%	39%
								312	190	122
	232	High-Rise Condominiums	2,047	DU	Midday Peak Hour	4.18	8,556	Ln(T)=0.84Ln(X)+0.07	68%	32%
								648	441	207
	820	Shopping Center	206.9	KSF	Midday Peak Hour	42.94	8,884	1.03	61%	39%
								213	130	83
						TOTALS:	**75,133**	**6,662**	**4,992**	**1,670**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE V TRIP GENERATION
MIDDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
34	251	Senior Adult Housing-Detached	472	DU	Midday Peak Hour	3.71	1,751	0.35	59%	41%
								165	97	68
35	251	Senior Adult Housing-Detached	519	DU	Midday Peak Hour	3.71	1,925	0.35	59%	41%
								182	107	74
36	251	Senior Adult Housing-Detached	524	DU	Midday Peak Hour	3.71	1,944	0.35	59%	41%
								183	108	75
37	251	Senior Adult Housing-Detached	253	DU	Midday Peak Hour	3.71	939	0.35	59%	41%
								89	52	36
38	251	Senior Adult Housing-Detached	298	DU	Midday Peak Hour	3.71	1,106	0.35	59%	41%
								104	62	43
						TOTALS:	**7,665**	**723**	**427**	**296**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE VI TRIP GENERATION
MIDDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
47	251	Senior Adult Housing-Detached	555	DU	Midday Peak Hour	3.71	2,059	0.35	59%	41%
								194	115	80
48	251	Senior Adult Housing-Detached	475	DU	Midday Peak Hour	3.71	1,762	0.35	59%	41%
								166	98	68
49	251	Senior Adult Housing-Detached	122	DU	Midday Peak Hour	3.71	453	0.35	59%	41%
								43	25	18
50	251	Senior Adult Housing-Detached	404	DU	Midday Peak Hour	3.71	1,499	0.35	59%	41%
								141	83	58
51	251	Senior Adult Housing-Detached	331	DU	Midday Peak Hour	3.71	1,228	0.35	59%	41%
								116	68	47
52	251	Senior Adult Housing-Detached	556	DU	Midday Peak Hour	3.71	2,063	0.35	59%	41%
								195	115	80
						TOTALS:	**9,064**	**855**	**504**	**351**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE VII TRIP GENERATION
MIDDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	AM		
								Average Rate / Regression Equation	Enter	Exit
6	210	Single Family Dwelling Units	489	DU	Midday Peak Hour	9.57	4,680	1.02	64%	36%
								499	319	180
12	710	General Office Building	439.5	KSF	Midday Peak Hour	11.01	4,839	1.55	88%	12%
								681	600	82
13	710	General Office Building	363.3	KSF	Midday Peak Hour	11.01	4,000	1.55	88%	12%
								563	496	68
14	710	General Office Building	415.2	KSF	Midday Peak Hour	11.01	4,571	1.55	88%	12%
								644	566	77
56	251	Senior Adult Housing-Detached	481	DU	Midday Peak Hour	3.71	1,785	0.35	59%	41%
								168	99	69
57	251	Senior Adult Housing-Detached	311	DU	Midday Peak Hour	3.71	1,154	0.35	59%	41%
								109	64	45
58	251	Senior Adult Housing-Detached	181	DU	Midday Peak Hour	3.71	672	0.35	59%	41%
								63	37	26
	412	County Park	156.5	Acres	Midday Peak Hour	2.28	357	0.59	35%	65%
								92	32	60
	820	Shopping Center	367.0	KSF	Midday Peak Hour	42.94	15,761	1.03	61%	39%
								378	231	147
	820	Shopping Center	388.3	KSF	Midday Peak Hour	42.94	16,673	1.03	61%	39%
								400	244	156
						TOTALS:	**54,491**	**3,598**	**2,688**	**909**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - OVERALL TRIP GENERATION
SATURDAY PEAK HOUR

Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trips	Peak Hour Trips	Enter	Exit
210	Single Family Dwelling Units	9,341	DU	Satruday Peak Hour	82,234	7,498	4,049	3,449
220	Apartment	1,539	DU	Satruday Peak Hour	16,320	1,328	664	664
232	High Rise Condominiums	10,000	DU	Satruday Peak Hour	42,142	3,324	828	2,496
251	Senior Adult Housing-Detached	13,675	DU	Satruday Peak Hour	55,126	3,350	1,608	1,742
412	County Park	74.1	Acres	Satruday Peak Hour	2,362	414	244	170
430	Golf Course	276.5	Acres	Satruday Peak Hour	1,452	160	83	77
520	Elementary School	600	Students	Satruday Peak Hour	0	0	0	0
522	Middle School	1,200	Students	Satruday Peak Hour	0	0	0	0
530	High School	1,200	Students	Satruday Peak Hour	915	165	106	59
710	General Office Building	3,163.2	KSF	Satruday Peak Hour	7,461	1,291	697	594
820	Shopping Center	2,041.9	KSF	Satruday Peak Hour	101,249	9,088	4,754	4,334
				TOTALS:	**309,260**	**26,617**	**13,032**	**13,585**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE I TRIP GENERATION
SATURDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak hour Trips		
								Average Rate / Regression Equation	Enter	Exit
1	251	Senior Adult Housing-Detached	850	DU	Saturday Peak Hour	2.77	2,355	0.27	48%	52%
								230	110	119
2	251	Senior Adult Housing-Detached	815	DU	Saturday Peak Hour	2.77	2,258	0.27	48%	52%
								220	106	114
3	210	Single Family Dwelling Units	151	DU	Saturday Peak Hour	10.1	1,525	T =0.89(X)+10.93	54%	46%
								145	78	67
4	210	Single Family Dwelling Units	271	DU	Saturday Peak Hour	10.1	2,737	T =0.89(X)+10.93	54%	46%
								252	136	116
5	210	Single Family Dwelling Units	262	DU	Saturday Peak Hour	10.1	2,646	T =0.89(X)+10.93	54%	46%
								244	132	112
7	220	Apartment	1,539	DU	Saturday Peak Hour	6.39	9,834	0.52	50%	50%
								800	400	400
8	210	Single Family Dwelling Units	337	DU	Saturday Peak Hour	10.1	3,404	T =0.89(X)+10.93	54%	46%
								311	168	143
9	210	Single Family Dwelling Units	332	DU	Saturday Peak Hour	10.1	3,353	T =0.89(X)+10.93	54%	46%
								306	165	141
10	210	Single Family Dwelling Units	405	DU	Saturday Peak Hour	10.1	4,091	T =0.89(X)+10.93	54%	46%
								371	201	171
11	210	Single Family Dwelling Units	297	DU	Saturday Peak Hour	10.1	3,000	T =0.89(X)+10.93	54%	46%
								275	149	127
54	251	Senior Adult Housing-Detached	231	DU	Saturday Peak Hour	2.77	640	0.27	48%	52%
								62	30	32
55	251	Senior Adult Housing-Detached	207	DU	Saturday Peak Hour	2.77	573	0.27	48%	52%
								56	27	29
59	251	Senior Adult Housing-Detached	250	DU	Saturday Peak Hour	2.77	693	0.27	48%	52%
								68	32	35
60	251	Senior Adult Housing-Detached	416	DU	Saturday Peak Hour	2.77	1,152	0.27	48%	52%
								112	54	58
61	251	Senior Adult Housing-Detached	263	DU	Saturday Peak Hour	2.77	729	0.27	48%	52%
								71	34	37
62	251	Senior Adult Housing-Detached	169	DU	Saturday Peak Hour	2.77	468	0.27	48%	52%
								46	22	24
	412	County Park	14.0	Acres	Saturday Peak Hour	12.14	170	2.24	59%	41%
								31	19	13
	520	Elementary School	500	Students	Saturday Peak Hour	0	0	0	0%	0%
								0	0	0
	522	Middle School	800	Students	Saturday Peak Hour	0	0	0	0%	0%
								0	0	0
	530	High School	1,500	Students	Saturday Peak Hour	0.61	915	0.11	64%	36%
								165	106	59
	430	Golf Course	249.5	Acres	Saturday Peak Hour	5.82	1,452	0.64	52%	48%
								160	83	77
	232	High-Rise Condominiums	2,627	DU	Saturday Peak Hour	4.31	11,322	T =0.30(X)+28.85	43%	57%
								817	351	466
	820	Shopping Center	265.4	KSF	Saturday Peak Hour	49.97	13,260	4.97	52%	48%
								1319	686	633
						TOTALS:	**66,576**	**6,062**	**3,088**	**2,974**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE II TRIP GENERATION
SATURDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
15	210	Single Family Dwelling Units	525	DU	Saturday Peak Hour	10.1	5,303	T =0.89(X)+10.93	54%	46%
								478	258	220
16	210	Single Family Dwelling Units	567	DU	Saturday Peak Hour	10.1	5,727	T =0.89(X)+10.93	54%	46%
								516	278	237
17	210	Single Family Dwelling Units	279	DU	Saturday Peak Hour	10.1	2,818	T =0.89(X)+10.93	54%	46%
								259	140	119
18	210	Single Family Dwelling Units	350	DU	Saturday Peak Hour	10.1	3,535	T =0.89(X)+10.93	54%	46%
								322	174	148
19	210	Single Family Dwelling Units	393	DU	Saturday Peak Hour	10.1	3,969	T =0.89(X)+10.93	54%	46%
								361	195	166
20	210	Single Family Dwelling Units	673	DU	Saturday Peak Hour	10.1	6,797	T =0.89(X)+10.93	54%	46%
								610	329	281
21	210	Single Family Dwelling Units	363	DU	Saturday Peak Hour	10.1	3,666	T =0.89(X)+10.93	54%	46%
								334	180	154
	412	County Park	7.0	Acres	Saturday Peak Hour	12.14	85	2.24	59%	41%
								16	9	6
	412	Town Center Park	53.4	Acres	Saturday Peak Hour	2.28	122	0.01	80%	20%
								1	0	0
	232	High-Rise Condominiums	3,961	DU	Saturday Peak Hour	4.18	16,557	0.34	19%	81%
								1347	256	1091
	820	Shopping Center	400.2	KSF	Saturday Peak Hour	49.97	19,998	4.97	52%	48%
								1989	1034	955
						TOTALS:	**68,577**	**6,232**	**2,855**	**3,377**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE III TRIP GENERATION
SATURDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak hour Trips		
								Average Rate / Regression Equation	Enter	Exit
33	220	Apartment	1,015	DU	Saturday Peak Hour	6.39	6,486	0.52	50%	50%
								528	264	264
39	251	Senior Adult Housing-Detached	196	DU	Saturday Peak Hour	2.77	543	0.27	48%	52%
								53	25	28
40	251	Senior Adult Housing-Detached	297	DU	Saturday Peak Hour	2.77	823	0.27	48%	52%
								80	38	42
41	251	Senior Adult Housing-Detached	611	DU	Saturday Peak Hour	2.77	1,692	0.27	48%	52%
								165	79	86
42	251	Senior Adult Housing-Detached	416	DU	Saturday Peak Hour	2.77	1,152	0.27	48%	52%
								112	54	58
43	251	Senior Adult Housing-Detached	591	DU	Saturday Peak Hour	2.77	1,637	0.27	48%	52%
								160	77	83
44	251	Senior Adult Housing-Detached	425	DU	Saturday Peak Hour	2.77	1,177	0.27	48%	52%
								115	55	60
45	251	Senior Adult Housing-Detached	407	DU	Saturday Peak Hour	2.77	1,127	0.27	48%	52%
								110	53	57
46	251	Senior Adult Housing-Detached	485	DU	Saturday Peak Hour	2.77	1,343	0.27	48%	52%
								131	63	68
53	251	Senior Adult Housing-Detached	297	DU	Saturday Peak Hour	2.77	823	0.27	48%	52%
								80	38	42
	412	County Park	7.0	Acres	Saturday Peak Hour	12.14	85	2.24	59%	41%
								16	9	6
	232	High-Rise Condominiums	1,365	DU	Saturday Peak Hour	4.18	5,706	0.34	19%	81%
								464	88	376
	820	Shopping Center	137.9	KSF	Saturday Peak Hour	49.97	6,893	4.97	52%	48%
								686	357	329
						TOTALS:	**29,488**	**2,699**	**1,201**	**1,498**

Stanley Consultants INC.

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE IV TRIP GENERATION
SATURDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
22	210	Single Family Dwelling Units	270	DU	Saturday Peak Hour	10.1	2,727	T =0.89(X)+10.93	54%	46%
								251	136	116
23	210	Single Family Dwelling Units	244	DU	Saturday Peak Hour	10.1	2,464	T =0.89(X)+10.93	54%	46%
								228	123	105
24	210	Single Family Dwelling Units	264	DU	Saturday Peak Hour	10.1	2,666	T =0.89(X)+10.93	54%	46%
								246	133	113
25	210	Single Family Dwelling Units	535	DU	Saturday Peak Hour	10.1	5,404	T =0.89(X)+10.93	54%	46%
								487	263	224
26	210	Single Family Dwelling Units	296	DU	Saturday Peak Hour	10.1	2,990	T =0.89(X)+10.93	54%	46%
								274	148	126
27	210	Single Family Dwelling Units	299	DU	Saturday Peak Hour	10.1	3,020	T =0.89(X)+10.93	54%	46%
								277	150	127
28	210	Single Family Dwelling Units	316	DU	Saturday Peak Hour	10.1	3,192	T =0.89(X)+10.93	54%	46%
								292	158	134
29	210	Single Family Dwelling Units	224	DU	Saturday Peak Hour	10.1	2,262	T =0.89(X)+10.93	54%	46%
								210	114	97
30	710	General Office Building	506.4	KSF	Saturday Peak Hour	2.37	1,200	0.41	54%	46%
								208	112	96
31	710	General Office Building	571.8	KSF	Saturday Peak Hour	2.37	1,355	0.41	54%	46%
								234	127	108
32	710	General Office Building	851.9	KSF	Saturday Peak Hour	2.37	2,019	0.41	54%	46%
								349	189	161
	820	Commercial (Shopping Center)	303.1	KSF	Saturday Peak Hour	42.94	13,015	1.03	61%	39%
								312	190	122
	232	High-Rise Condominiums	2,047	DU	Saturday Peak Hour	4.18	8,556	0.34	19%	81%
								696	132	564
	820	Shopping Center	206.9	KSF	Saturday Peak Hour	49.97	10,338	4.97	52%	48%
								1028	535	494
						TOTALS:	**61,209**	**5,094**	**2,508**	**2,585**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE V TRIP GENERATION
SATURDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
34	251	Senior Adult Housing-Detached	472	DU	Saturday Peak Hour	2.77	1,307	0.27	48%	52%
								127	61	66
35	251	Senior Adult Housing-Detached	519	DU	Saturday Peak Hour	2.77	1,438	0.27	48%	52%
								140	67	73
36	251	Senior Adult Housing-Detached	524	DU	Saturday Peak Hour	2.77	1,451	0.27	48%	52%
								141	68	74
37	251	Senior Adult Housing-Detached	253	DU	Saturday Peak Hour	2.77	701	0.27	48%	52%
								68	33	36
38	251	Senior Adult Housing-Detached	298	DU	Saturday Peak Hour	2.77	825	0.27	48%	52%
								80	39	42
						TOTALS:	**5,723**	**558**	**268**	**290**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE VI TRIP GENERATION
SATURDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
47	251	Senior Adult Housing-Detached	555	DU	Saturday Peak Hour	2.77	1,537	0.27	48%	52%
								150	72	78
48	251	Senior Adult Housing-Detached	475	DU	Saturday Peak Hour	2.77	1,316	0.27	48%	52%
								128	62	67
49	251	Senior Adult Housing-Detached	122	DU	Saturday Peak Hour	2.77	338	0.27	48%	52%
								33	16	17
50	251	Senior Adult Housing-Detached	404	DU	Saturday Peak Hour	2.77	1,119	0.27	48%	52%
								109	52	57
51	251	Senior Adult Housing-Detached	331	DU	Saturday Peak Hour	2.77	917	0.27	48%	52%
								89	43	46
52	251	Senior Adult Housing-Detached	556	DU	Saturday Peak Hour	2.77	1,540	0.27	48%	52%
								150	72	78
						TOTALS:	**6,767**	**660**	**317**	**343**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - PHASE VII TRIP GENERATION
SATURDAY PEAK HOUR

Parcel Number	Land Use Code	Description	Quantity	Units	Trip Gen. Period	Daily Trip Rates	Daily Trips	Peak Hour Trips		
								Average Rate / Regression Equation	Enter	Exit
6	210	Single Family Dwelling Units	489	DU	Saturday Peak Hour	10.1	4,939	T =0.89(X)+10.93	54%	46%
								446	241	205
12	710	General Office Building	439.5	KSF	Saturday Peak Hour	2.37	1,042	0.41	54%	46%
								180	97	83
13	710	General Office Building	363.3	KSF	Saturday Peak Hour	2.37	861	0.41	54%	46%
								149	80	69
14	710	General Office Building	415.2	KSF	Saturday Peak Hour	2.37	984	0.41	54%	46%
								170	92	78
56	251	Senior Adult Housing-Detached	481	DU	Saturday Peak Hour	2.77	1,332	0.27	48%	52%
								130	62	68
57	251	Senior Adult Housing-Detached	311	DU	Saturday Peak Hour	2.77	861	0.27	48%	52%
								84	40	44
58	251	Senior Adult Housing-Detached	181	DU	Saturday Peak Hour	2.77	501	0.27	48%	52%
								49	23	25
	412	County Park	156.5	Acres	Saturday Peak Hour	12.14	1,900	2.24	59%	41%
								351	207	144
	820	Shopping Center	367.0	KSF	Saturday Peak Hour	49.97	18,341	4.97	52%	48%
								1824	949	876
	820	Shopping Center	388.3	KSF	Saturday Peak Hour	49.97	19,402	4.97	52%	48%
								1930	1003	926
						TOTALS:	**50,165**	**5,313**	**2,796**	**2,517**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY
TRIP DISTRIBUTION FOR NON RESIDENTIAL LAND USES - A.M. PEAK HOUR

Phase ↓	Land Use →	Parks	Schools	Golf Course	Commercial	Office	*Trips by Phase*
Phase I	**Total Trips**	**0**	**1,249**	**48**	**273**	**0**	***1,570***
	Primary trips	0	0	12	191	-	*203*
	Secondary trips	0	1,249	36	82	-	*1,367*
Phase II	**Total Trips**	**1**	**0**	**0**	**412**	**0**	***413***
	Primary trips	0	-	-	305	-	*305*
	Secondary trips	1	-	-	107	-	*108*
Phase III	**Total Trips**	**0**	**0**	**0**	**142**	**0**	***142***
	Primary trips	-	-	-	92	-	*92*
	Secondary trips	-	-	-	50	-	*50*
Phase IV	**Total Trips**	**0**	**0**	**0**	**525**	**2,992**	***3,517***
	Primary trips	-	-	-	394	1,496	*1,890*
	Secondary trips	-	-	-	131	1,496	*1,627*
Phase V	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VI	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VII	**Total Trips**	**2**	**0**	**0**	**778**	**1,888**	***2,668***
	Primary trips	0	-	-	607	944	*1,551*
	Secondary trips	2	-	-	171	944	*1,117*
Total	Primary trips	0	0	12	1,589	2,440	***4,041***
	Secondary trips	3	1,249	36	541	2,440	***4,269***

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY
TRIP DISTRIBUTION FOR NON RESIDENTIAL LAND USES - P.M. PEAK HOUR

Phase ↓	Land Use →	Parks	Schools	Golf Course	Commercial	Office	*Trips by Phase*
Phase I	**Total Trips**	**1**	**470**	**64**	**995**	**0**	***1,530***
	Primary trips	0	0	16	697	-	*713*
	Secondary trips	1	470	48	299	-	*818*
Phase II	**Total Trips**	**1**	**0**	**0**	**1,501**	**0**	***1,502***
	Primary trips	0	-	-	1,111	-	*1,111*
	Secondary trips	1	-	-	390	-	*391*
Phase III	**Total Trips**	**0**	**0**	**0**	**517**	**0**	***517***
	Primary trips	-	-	-	336	-	*336*
	Secondary trips	-	-	-	181	-	*181*
Phase IV	**Total Trips**	**0**	**0**	**0**	**1,088**	**2,876**	***3,964***
	Primary trips	-	-	-	816	1,438	*2,254*
	Secondary trips	-	-	-	272	1,438	*1,710*
Phase V	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VI	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VII	**Total Trips**	**9**	**0**	**0**	**2,832**	**1,815**	***4,656***
	Primary trips	0	-	-	2,209	908	*3,116*
	Secondary trips	9	-	-	623	908	*1,540*
Total	Primary trips	0	0	16	5,168	2,346	***7,530***
	Secondary trips	11	470	48	1,765	2,346	***4,639***

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY
TRIP DISTRIBUTION FOR NON RESIDENTIAL LAND USES - MIDDAY PEAK HOUR

Phase ↓	Land Use →	Parks	Schools	Golf Course	Commercial	Office	*Trips by Phase*
Phase I	**Total Trips**	**8**	**1,249**	**97**	**273**	**0**	***1,627***
	Primary trips	0	0	24	191	-	*215*
	Secondary trips	8	1,249	73	82	-	*1,412*
Phase II	**Total Trips**	**5**	**0**	**0**	**412**	**0**	***417***
	Primary trips	0	-	-	305	-	*305*
	Secondary trips	5	-	-	107	-	*112*
Phase III	**Total Trips**	**4**	**0**	**0**	**142**	**0**	***146***
	Primary trips	0	-	-	92	-	*92*
	Secondary trips	4	-	-	50	-	*54*
Phase IV	**Total Trips**	**0**	**0**	**0**	**525**	**2,992**	***3,517***
	Primary trips	-	-	-	394	1,496	*1,890*
	Secondary trips	-	-	-	131	1,496	*1,627*
Phase V	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VI	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VII	**Total Trips**	**92**	**0**	**0**	**778**	**1,888**	***2,758***
	Primary trips	0	-	-	607	944	*1,551*
	Secondary trips	92	-	-	171	944	*1,207*
Total	Primary trips	0	0	24	1,589	2,440	*4,053*
	Secondary trips	109	1,249	73	541	2,440	*4,412*

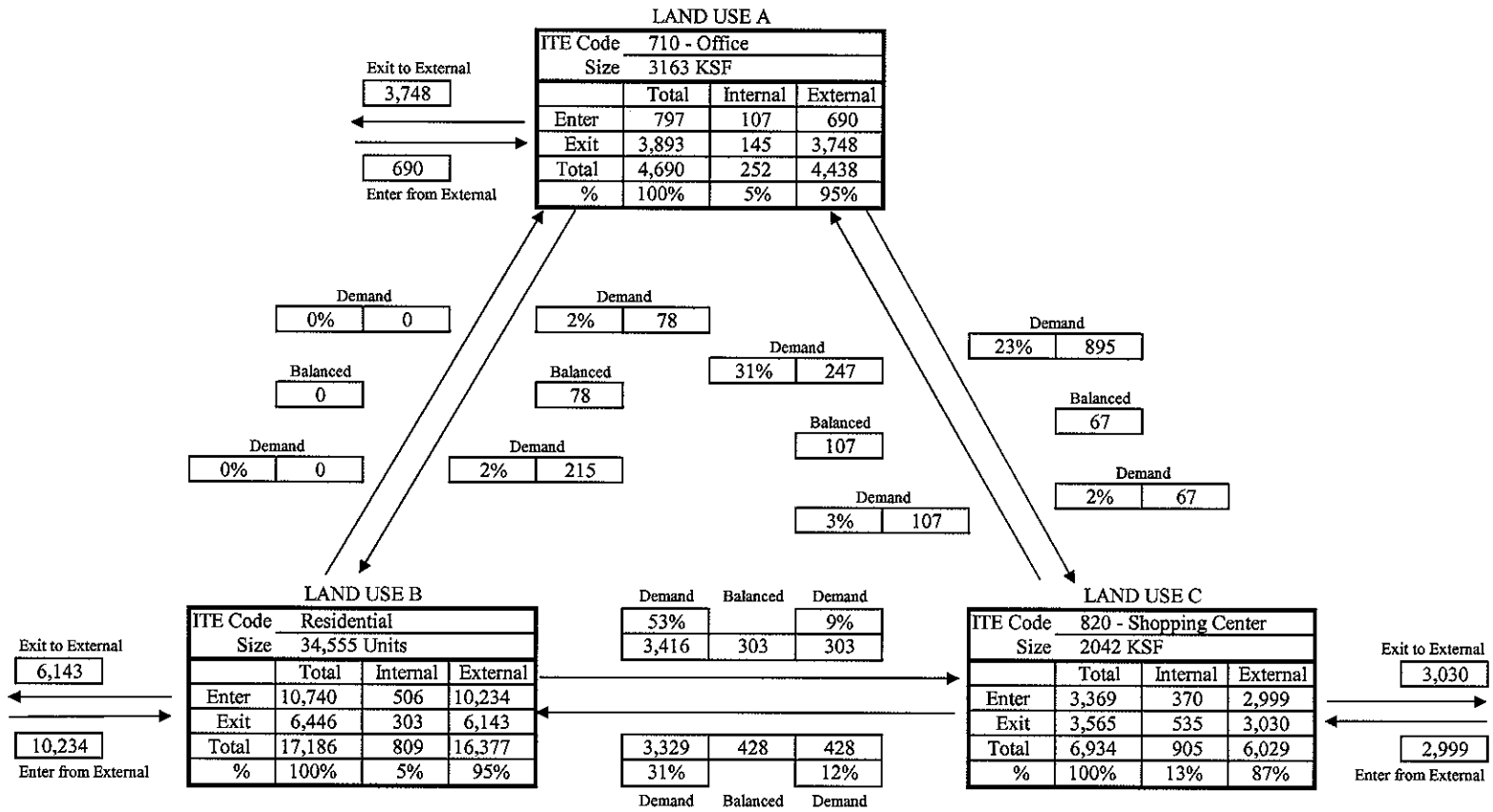
GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY
TRIP DISTRIBUTION FOR NON RESIDENTIAL LAND USES - SATURDAY PEAK HOUR

Phase ↓	Land Use →	Parks	Schools	Golf Course	Commercial	Office	*Trips by Phase*
Phase I	**Total Trips**	**31**	**165**	**160**	**1,319**	**0**	***1,675***
	Primary trips	0	0	40	923	-	*963*
	Secondary trips	31	165	120	396	-	*712*
Phase II	**Total Trips**	**16**	**0**	**0**	**1,989**	**0**	***2,005***
	Primary trips	0	-	-	1,472	-	*1,472*
	Secondary trips	16	-	-	517	-	*533*
Phase III	**Total Trips**	**16**	**0**	**0**	**686**	**0**	***702***
	Primary trips	-	-	-	446	-	*446*
	Secondary trips	-	-	-	240	-	*240*
Phase IV	**Total Trips**	**0**	**0**	**0**	**1,340**	**791**	***2,131***
	Primary trips	-	-	-	1,005	396	*1,401*
	Secondary trips	-	-	-	335	396	*731*
Phase V	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VI	**Total Trips**	**0**	**0**	**0**	**0**	**0**	***0***
	Primary trips	-	-	-	-	-	*0*
	Secondary trips	-	-	-	-	-	*0*
Phase VII	**Total Trips**	**351**	**0**	**0**	**3,754**	**499**	***4,604***
	Primary trips	0	-	-	2,928	250	*3,178*
	Secondary trips	351	-	-	826	250	*1,426*
Total	Primary trips	0	0	40	6,774	645	*7,459*
	Secondary trips	398	165	120	2,314	645	*3,642*

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - INTERNAL CAPTURE CALCULATION
P.M. PEAK HOUR

Analyst: Kondala Rao Mantri
Date: May 10, 2006

Name of Development: Golden Valley Ranch
Time Period: PM Peak Hour



Net External Trips for Multi use Development				
	Land Use A	Land Use B	Land Use C	Total
Enter	690	10,234	2,999	13,923
Exit	3,748	6,143	3,030	12,921
Total	4,438	16,377	6,029	26,844
Single-Use Trip Gen. Est.	4,690	17,186	6,934	28,810

Internal Capture
7%

5/10/2006

Stanley Consultants INC.

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY - ONSITE AND OFFSITE TRAFFIC IN EACH PHASE

Phase	Peak Hour	Residential Trips	Non Residential Trips		Total Offsite Traffic	Total Onsite Traffic	Total Peak Hour Traffic
			Primary (Offsite)	Secondary (Onsite)			
1	PM Peak Hour	4,877	713	818	4,772	818	5,590
2	PM Peak Hour	4,544	1,111	391	5,263	391	5,655
3	PM Peak Hour	2,274	336	181	2,429	181	2,610
4	PM Peak Hour	3,184	2,254	1,710	3,728	1,710	5,438
5	PM Peak Hour	677	0	0	677	0	677
6	PM Peak Hour	797	0	0	797	0	797
7	PM Peak Hour	833	3,116	1,540	2,410	1,540	3,949
				Total Volumes:	**20,077**	**4,639**	**24,716**

Phase	Peak Hour	Residential Trips	Non Residential Trips		Total Offsite Traffic	Total Onsite Traffic	Total Peak Hour Traffic
			Primary (Offsite)	Secondary (Onsite)			
1	SAT Peak Hour	4,313	963	712	4,565	712	5,276
2	SAT Peak Hour	4,227	1,472	533	5,166	533	5,699
3	SAT Peak Hour	1,905	446	240	2,111	240	2,351
4	SAT Peak Hour	2,962	1,401	731	3,632	731	4,363
5	SAT Peak Hour	558	0	0	558	0	558
6	SAT Peak Hour	660	0	0	660	0	660
7	SAT Peak Hour	709	3,178	1,426	2,460	1,426	3,887
				Total Volumes:	**19,151**	**3,642**	**22,793**

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY
INTERNAL DISTRIBUTION OF TRAFFIC

Roadway	Phase I (Peak Hour Volumes)	Phase II (Peak Hour Volumes)	Phase III (Peak Hour Volumes)	2015 Peak Hour Volumes	2015 ADT Volumes	Phase IV (Peak Hour Volumes)	Phase V (Peak Hour Volumes)	Phase VI (Peak Hour Volumes)	Phase VII (Peak Hour Volumes)	2025 Peak Hour Volumes	2025 ADT Volumes
East Loop Road (Section 1)	1,500	0	0	1,500	16,667		0	50	0	1,550	17,222
East Loop Road (Section 2)	1,000	1,500	0	2,500	27,778	250	0	50	0	2,800	31,111
East Loop Road (Section 3)	0	500	0	500	5,556	1,500	0	50	0	2,050	22,778
West Loop Road (Section 1)	750	0	0	750	8,333	0	0	50	0	800	8,889
West Loop Road (Section 2)	500	0	0	500	5,556	0	0	50	0	550	6,111
West Loop Road (Section 3)	0	0	1,500	1,500	16,667	0	0	50	0	1,550	17,222
Aztec Road Extension	1,000	1,000	500	2,500	27,778	250	100	0	500	3,350	37,222
Aztec Road (South of Roundabout)	1,000	1,000	500	2,500	27,778	250	100	0	500	3,350	37,222
Mobile Road Extension	1,000	0	0	1,000	11,111	0	0	0	500	1,500	16,667
Hualapai Drive Extension	500	0	250	750	8,333	0	0	400	0	1,150	12,778
Cerbat Road Extension	0	0	500	500	5,556	0	0	400	0	900	10,000
Ramada Road Extension	0	0	1,000	1,000	11,111	0	100	0	0	1,100	12,222
Indian Wells Road Extension	0	0	500	500	5,556	0	200	0	0	700	7,778
Sacramento Road Extension	500	1,000	1,000	2,500	27,778	0	250	0	0	2,750	30,556
Centennial Road Extension	0	500	0	500	5,556	2,000	0	0	0	2,500	27,778
Tampico Road Extension	0	0	0	0	0	2,000	0	0	0	2,000	22,222
TC Connecter	200	2,000	0	2,200	24,444	0	0	0	0	2,200	24,444
Bacobi Road Extension	1,500	1,500	0	3,000	33,333	250	0	0	100	3,350	37,222
East Middle Road	0	250	0	250	2,778	500	0	0	0	750	8,333

East Loop Road

Section 1 - Between Roundabout and Bacobi Road Extension
Section 2 - Between Bacobi Road Extension and Centennial Road
Section 3 - Between Centennial Road and Sacramento Road

West Loop Road

Section 1 - Between Roundabout and Mobile Road Extension
Section 2 - Between Mobile Road Extension and Ramada Road
Section 3 - Between Centennial Road and Sacramento Road

Stanley Consultants INC.

GOLDEN VALLEY RANCH
MASTER TRAFFIC STUDY
BACKGROUND TRAFFIC VOLUMES

Roadway	Direction	Location	2003 Volumes (ADT)	2015 Projected Volumes (ADT)	2025 Projected Volumes (ADT)	2040 Projected Volumes (ADT)
Highway 68	E - W	Between Verde Rd & US 93	11,700	21,012	34,226	71,152
Colorado Road	N - S	2010' south of Highway 68	596	1,070	1,743	3,625
Aztec Road	N - S	0.1 mile south of Highway 68	877	1,575	2,565	5,333
Aztec Road	N - S	0.1 mile north of Shinarump Road	513	921	1,501	3,120
Bacobi Road	N - S	1 mile north of Shinarump Drive	211	379	617	1,283
Shinarump Road	E - W	480' west of Aztec Road	106	190	310	645
Shinarump Road	E - W	1660' north of Oatman Road	753	1,352	2,203	4,579
Aquarius Drive	E - W		-	1,352	2,203	4,579
Sacramento Road	N - S		-	1,575	2,565	5,333
Centennial Road	N - S		-	1,575	2,565	5,333
Ramada Road	N - S		-	1,575	2,565	5,333

Appendix B

Results from the HCS Analyses

2015 Results

HCS Arterial Planning Results – 2015 P.M. Peak Hour

Exterior Roadways

Aquarius Drive

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Aquarius Drive
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	25000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	40	mph
Urban class	2	
Section length	4.60	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	25000	vpd
Two-way hourly volume	2250	vph
Hourly directional volume	1125	vph
Through-volume 15-min. flow rate	625	v
Running time	414.0	sec
v/c ratio	0.30	
Through capacity	2050	vph
Progression factor, PF	1.000	
Uniform delay	8.8	sec
Filtering/metering factor, I	0.962	
Incremental delay	0.4	sec
Control delay	9.2	sec/v
Total travel speed, Sa	38.3	mph
Total urban street LOS	A	

Aztec Road

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc.
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Aztec Road
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	43000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	3	
Free flow speed, FFS	45	mph
Urban class	2	
Section length	4.40	miles
Median	Yes	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	43000	vpd
Two-way hourly volume	3870	vph
Hourly directional volume	1935	vph
Through-volume 15-min. flow rate	1075	v
Running time	352.0	sec
v/c ratio	0.33	
Through capacity	3240	vph
Progression factor, PF	1.000	
Uniform delay	9.0	sec
Filtering/metering factor, I	0.953	
Incremental delay	0.3	sec
Control delay	9.3	sec/v
Total travel speed, Sa	42.8	mph
Total urban street LOS	A	

Bacobi Road

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Bacobi Road
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	37000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	45	mph
Urban class	2	
Section length	4.40	miles
Median	Yes	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	37000	vpd
Two-way hourly volume	3330	vph
Hourly directional volume	1665	vph
Through-volume 15-min. flow rate	925	v
Running time	352.0	sec
v/c ratio	0.43	
Through capacity	2160	vph
Progression factor, PF	1.000	
Uniform delay	9.7	sec
Filtering/metering factor, I	0.906	
Incremental delay	0.6	sec
Control delay	10.3	sec/v
Total travel speed, Sa	42.5	mph
Total urban street LOS	A	

Colorado Road

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Colorado Road
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	19000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	45	mph
Urban class	2	
Section length	4.60	miles
Median	Yes	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	19000	vpd
Two-way hourly volume	1710	vph
Hourly directional volume	855	vph
Through-volume 15-min. flow rate	475	v
Running time	368.0	sec
v/c ratio	0.22	
Through capacity	2160	vph
Progression factor, PF	1.000	
Uniform delay	8.3	sec
Filtering/metering factor, I	0.984	
Incremental delay	0.2	sec
Control delay	8.5	sec/v
Total travel speed, Sa	43.0	mph
Total urban street LOS	A	

Sacramento Road

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Sacramento Road
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	17000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	40	mph
Urban class	2	
Section length	5.00	miles
Median	Yes	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	17000	vpd
Two-way hourly volume	1530	vph
Hourly directional volume	765	vph
Through-volume 15-min. flow rate	425	v
Running time	450.0	sec
v/c ratio	0.20	
Through capacity	2160	vph
Progression factor, PF	1.000	
Uniform delay	8.2	sec
Filtering/metering factor, I	0.988	
Incremental delay	0.2	sec
Control delay	8.4	sec/v
Total travel speed, Sa	38.6	mph
Total urban street LOS	A	

Shinarump Drive

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Shinarump Drive
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	25000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	3	
Free flow speed, FFS	45	mph
Urban class	2	
Section length	5.00	miles
Median	Yes	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	25000	vpd
Two-way hourly volume	2250	vph
Hourly directional volume	1125	vph
Through-volume 15-min. flow rate	625	v
Running time	400.0	sec
v/c ratio	0.19	
Through capacity	3240	vph
Progression factor, PF	1.000	
Uniform delay	8.1	sec
Filtering/metering factor, I	0.989	
Incremental delay	0.1	sec
Control delay	8.3	sec/v
Total travel speed, Sa	43.2	mph
Total urban street LOS	A	

Tombstone Trail

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Tombstone Trail
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	7000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	40	mph
Urban class	2	
Section length	8.00	miles
Median	Yes	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	7000	vpd
Two-way hourly volume	630	vph
Hourly directional volume	315	vph
Through-volume 15-min. flow rate	175	v
Running time	720.0	sec
v/c ratio	0.08	
Through capacity	2160	vph
Progression factor, PF	1.000	
Uniform delay	7.6	sec
Filtering/metering factor, I	0.999	
Incremental delay	0.1	sec
Control delay	7.6	sec/v
Total travel speed, Sa	39.2	mph
Total urban street LOS	A	

Interior Roadways

Aztec Road Extension

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Aztec Road Extension
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	30000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	3	
Free flow speed, FFS	45	mph
Urban class	2	
Section length	2.30	miles
Median	Yes	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	30000	vpd
Two-way hourly volume	2700	vph
Hourly directional volume	1350	vph
Through-volume 15-min. flow rate	750	v
Running time	184.0	sec
v/c ratio	0.23	
Through capacity	3240	vph
Progression factor, PF	1.000	
Uniform delay	8.4	sec
Filtering/metering factor, I	0.982	
Incremental delay	0.2	sec
Control delay	8.5	sec/v
Total travel speed, Sa	41.2	mph
Total urban street LOS	A	

Bacobi Road Extension

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Bacobi Road Extension
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	35000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	35	mph
Urban class	3	
Section length	0.60	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	35000	vpd
Two-way hourly volume	3150	vph
Hourly directional volume	1575	vph
Through-volume 15-min. flow rate	875	v
Running time	67.2	sec
v/c ratio	0.43	
Through capacity	2050	vph
Progression factor, PF	1.000	
Uniform delay	9.7	sec
Filtering/metering factor, I	0.907	
Incremental delay	0.6	sec
Control delay	10.3	sec/v
Total travel speed, Sa	24.6	mph
Total urban street LOS	B	

Centennial Road Extension

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Centennial Road Extension
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	7000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	35	mph
Urban class	3	
Section length	1.00	miles
Median	Yes	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	7000	vpd
Two-way hourly volume	630	vph
Hourly directional volume	315	vph
Through-volume 15-min. flow rate	175	v
Running time	103.0	sec
v/c ratio	0.08	
Through capacity	2160	vph
Progression factor, PF	1.000	
Uniform delay	7.6	sec
Filtering/metering factor, I	0.999	
Incremental delay	0.1	sec
Control delay	7.6	sec/v
Total travel speed, Sa	30.4	mph
Total urban street LOS	A	

Cerbat Road Extension

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Cerbat Road Extension
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	5500	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	35	mph
Urban class	3	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	5500	vpd
Two-way hourly volume	495	vph
Hourly directional volume	247	vph
Through-volume 15-min. flow rate	137	v
Running time	103.0	sec
v/c ratio	0.07	
Through capacity	2050	vph
Progression factor, PF	1.000	
Uniform delay	7.5	sec
Filtering/metering factor, I	0.999	
Incremental delay	0.1	sec
Control delay	7.6	sec/v
Total travel speed, Sa	30.5	mph
Total urban street LOS	A	

East Loop Road

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	East Loop Road
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	30000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	35	mph
Urban class	2	
Section length	3.50	miles
Median	Yes	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	30000	vpd
Two-way hourly volume	2700	vph
Hourly directional volume	1350	vph
Through-volume 15-min. flow rate	750	v
Running time	360.0	sec
v/c ratio	0.35	
Through capacity	2160	vph
Progression factor, PF	1.000	
Uniform delay	9.1	sec
Filtering/metering factor, I	0.947	
Incremental delay	0.4	sec
Control delay	9.5	sec/v
Total travel speed, Sa	33.2	mph
Total urban street LOS	B	

East Middle Road

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak hour
Urban Street:	East Middle Road
Direction of Travel:	
Jurisdiction:	Mohave County, AZ`
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	3000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	30	mph
Urban class	3	
Section length	1.40	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	3000	vpd
Two-way hourly volume	270	vph
Hourly directional volume	135	vph
Through-volume 15-min. flow rate	75	v
Running time	168.0	sec
v/c ratio	0.04	
Through capacity	1726	vph
Progression factor, PF	1.000	
Uniform delay	7.4	sec
Filtering/metering factor, I	1.000	
Incremental delay	0.0	sec
Control delay	7.4	sec/v
Total travel speed, Sa	27.6	mph
Total urban street LOS	B	

Hualapai Drive Extension

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Hualapai Drive Extension
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	8500	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	30	mph
Urban class	3	
Section length	2.20	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	8500	vpd
Two-way hourly volume	765	vph
Hourly directional volume	382	vph
Through-volume 15-min. flow rate	212	v
Running time	264.0	sec
v/c ratio	0.12	
Through capacity	1726	vph
Progression factor, PF	1.000	
Uniform delay	7.8	sec
Filtering/metering factor, I	0.997	
Incremental delay	0.1	sec
Control delay	7.9	sec/v
Total travel speed, Sa	28.3	mph
Total urban street LOS	B	

Indian Wells Road Extension

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Indian Wells Road Extension
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	5500	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	30	mph
Urban class	3	
Section length	1.30	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	5500	vpd
Two-way hourly volume	495	vph
Hourly directional volume	247	vph
Through-volume 15-min. flow rate	137	v
Running time	156.0	sec
v/c ratio	0.08	
Through capacity	1726	vph
Progression factor, PF	1.000	
Uniform delay	7.6	sec
Filtering/metering factor, I	0.999	
Incremental delay	0.1	sec
Control delay	7.6	sec/v
Total travel speed, Sa	27.3	mph
Total urban street LOS	B	

Mobile Road Extension

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants. Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Mobile Road Extension
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	13000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	35	mph
Urban class	3	
Section length	0.70	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	13000	vpd
Two-way hourly volume	1170	vph
Hourly directional volume	585	vph
Through-volume 15-min. flow rate	325	v
Running time	75.3	sec
v/c ratio	0.19	
Through capacity	1726	vph
Progression factor, PF	1.000	
Uniform delay	8.1	sec
Filtering/metering factor, I	0.990	
Incremental delay	0.2	sec
Control delay	8.4	sec/v
Total travel speed, Sa	27.4	mph
Total urban street LOS	B	

Ramada Road Extension

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants. Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Ramada Road Extension
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	13000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	35	mph
Urban class	3	
Section length	2.40	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	13000	vpd
Two-way hourly volume	1170	vph
Hourly directional volume	585	vph
Through-volume 15-min. flow rate	325	v
Running time	246.9	sec
v/c ratio	0.19	
Through capacity	1726	vph
Progression factor, PF	1.000	
Uniform delay	8.1	sec
Filtering/metering factor, I	0.990	
Incremental delay	0.2	sec
Control delay	8.4	sec/v
Total travel speed, Sa	32.8	mph
Total urban street LOS	A	

Sacramento Road Extension

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	Sacramento Road Extension
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	30000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	3	
Free flow speed, FFS	45	mph
Urban class	2	
Section length	1.10	miles
Median	Yes	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	30000	vpd
Two-way hourly volume	2700	vph
Hourly directional volume	1350	vph
Through-volume 15-min. flow rate	750	v
Running time	95.9	sec
v/c ratio	0.23	
Through capacity	3240	vph
Progression factor, PF	1.000	
Uniform delay	8.4	sec
Filtering/metering factor, I	0.982	
Incremental delay	0.2	sec
Control delay	8.5	sec/v
Total travel speed, Sa	35.1	mph
Total urban street LOS	A	

TC Connector

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consultants, Inc
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	TC Connecter
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	24500	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	30	mph
Urban class	3	
Section length	1.30	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	24500	vpd
Two-way hourly volume	2205	vph
Hourly directional volume	1102	vph
Through-volume 15-min. flow rate	612	v
Running time	156.0	sec
v/c ratio	0.35	
Through capacity	1726	vph
Progression factor, PF	1.000	
Uniform delay	9.1	sec
Filtering/metering factor, I	0.943	
Incremental delay	0.5	sec
Control delay	9.7	sec/v
Total travel speed, Sa	26.7	mph
Total urban street LOS	B	

West Loop Road

PLANNING ANALYSIS

Analyst:	Kondala Rao Mantri
Agency/Co.:	Stanley Consult
Date Performed:	5/9/2006
Analysis Time Period:	P.M. Peak Hour
Urban Street:	West Loop Road
Direction of Travel:	
Jurisdiction:	Mohave County, AZ
Analysis Year:	2015
Project ID:	Golden Valley Ranch Master Traffic Study

Traffic Characteristics

Annual average daily traffic, AADT	19000	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.500	
Peak-hour factor, PHF	0.900	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	2	
Free flow speed, FFS	35	mph
Urban class	2	
Section length	3.20	miles
Median	Yes	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	90.0	sec
Effective green ratio, g/C	0.600	

Results

Annual average daily traffic, AADT	19000	vpd
Two-way hourly volume	1710	vph
Hourly directional volume	855	vph
Through-volume 15-min. flow rate	475	v
Running time	329.1	sec
v/c ratio	0.22	
Through capacity	2160	vph
Progression factor, PF	1.000	
Uniform delay	8.3	sec
Filtering/metering factor, I	0.984	
Incremental delay	0.2	sec
Control delay	8.5	sec/v
Total travel speed, Sa	33.3	mph
Total urban street LOS	B	